MAGNAVOX

SERVICE MANUAL

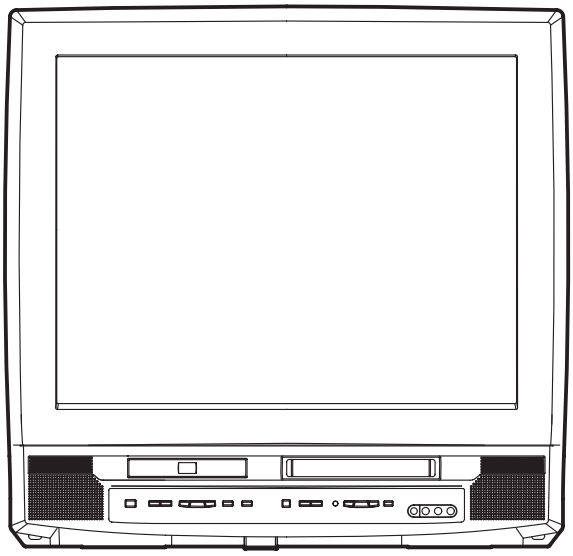
Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded Views
- Parts List

When servicing the deck mechanism, refer to MK14 Deck Mechanism Section.

Deck Mechanism Part No.: N2466FT

27″ ANALOG/DIGITAL PURE FLAT COLOR TV/DVD/VCR

CT270MW8



VHS

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

27″ ANALOG/DIGITAL PURE FLAT COLOR TV/DVD/VCR

CT270MW8

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- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
- **Exploded Views**
- **Parts List**

TABLE OF CONTENTS

Specifications 1-1-1
Laser Beam Safety Precautions 1-2-1
Important Safety Precautions 1-3-1
Standard Notes for Servicing 1-4-1
Preparation for Servicing. 1-5-1
Cabinet Disassembly Instructions 1-6-1
Electrical Adjustment Instructions 1-7-1
How to Initialize the TV/DVD/VCR 1-8-1
Firmware Renewal Mode 1-9-1
Block Diagrams 1-10-1
Schematic Diagrams / CBA's and Test Points 1-11-1
Waveforms 1-12-1
Wiring Diagram 1-13-1
System Control Timing Charts 1-14-1
IC Pin Function Descriptions. 1-15-1
Lead Identifications 1-16-1
Exploded Views. 1-17-1
Mechanical Parts List 1-18-1
Electrical Parts List 1-19-1

SPECIFICATIONS

✳ Mode---------SP mode unless otherwise specified

✳ Test input terminal
<Except Tuner>--------Video input (1 Vp-p)
Audio input (-10 dB)
<Tuner>----------Ant. input (80 dBμV) Video: 87.5%
Audio: 25 kHz dev. (1 kHz Sin)

< DEFLECTION >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	---	%	90	5
2. Linearity	Horizontal	%	0	±15
	Vertical	%	0	±10
3. High Voltage	---	kV	30	+3/-7

< VIDEO & CHROMA >

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	0	0.4
	Corner	m/m	0	2.5
	Side	m/m	0	1.5
2. Tint Control Range	---	deg	±30	>+23/<-23
3. Contrast Control Range	---	dB	6	2
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	25	>15
5. Color Temperature	---	K	9200	---

< DVD >

Description		Condition	Unit	Nominal	Limit
1. Horizontal Resolution (TDV-540 TIT.2 CHP.16)		---	Line	350	330
2. Video S/N at CN3400 (TDV-540 TIT.2 CHP.6)		---	dB	60	55
3. S/N Chroma at CN3400 (TDV-540 TIT.2 CHP.17)	AM	---	dB	58	53
	PM	---	dB	58	53
4. Audio Distortion (LPCM 48 kHz, W/LPF) (PTD 1-NOR TIT.1 CHP.1)		L R	%	0.03	0.07
5. Audio freq. response (LPCM 48 kHz) (PTD 1-NOR TIT.1 CHP.5 -- 10)		L, 20 Hz R, 20 Hz L, 20 kHz R, 20 kHz	dB	0	+4/-5
6. Audio S/N (LPCM 48 kHz,W/LPF,A-WTD) (PTD 1-NOR TIT.1 CHP.1 -- 2)		L R	dB	85	75

< VCR >

Description		Condition	Unit	Nominal	Limit
1. Horizontal Resolution		(R/P, SP)	Line	230	200
2. Jitter (Low)		(R/P, SP)	μs	0.1	0.2
3. S/N Chroma	AM(SP)	(R/P, SP)	dB	38	33
	PM(SP)	(R/P, SP)	dB	38	33
4. Wow & Flutter (JIS, UNWTD)		(R/P, SP)	%	0.25	0.5

< TUNER >

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80 dBμV, TV4ch)	---	dB	45	40
2. Audio S/N (W/LPF)	---	dB	45	40

< NORMAL AUDIO>

All items are measured across 8 Ω resistor at speaker output terminal.

Description		Condition	Unit	Nominal	Limit
1. Audio Output Power		(R/P, SP)	W	1.0	0.8
2. Audio S/N (W/LPF)		(R/P, SP)	dB	40	36
3. Audio distortion (W/LPF, -10 dB 1 kHz IN)		(R/P, SP)	%	3.0	5.0
4. Audio Freq. Response (-10dB 1kHz IN)	200 Hz	(R/P, SP)	dB	-2.0	-2.0±5.0
	8 kHz	(R/P, SP)	dB	0	0±6.0

< Hi-Fi AUDIO >

Description		Condition	Unit	Nominal	Limit
1. Output Level (-10 dB 1 kHz IN)		(R/P, SP)	dB	-8.0	-8±4
2. Audio Distortion (-10 dB 1 kHz IN)		(R/P, SP)	%	0.5	1.0
3. Freq. Response (-15 dB 1 kHz IN)	20 Hz	(R/P, SP)	dB	0	±4
	20 kHz	(R/P, SP)	dB	0	±4

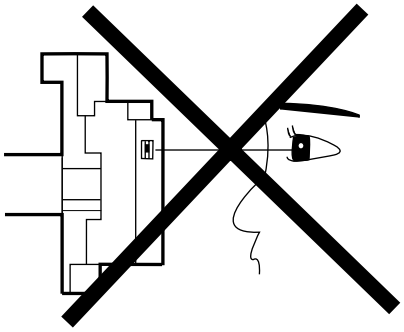
< ATSC >

Description	Condition	Unit	Nominal	Limit
1. RECEIVED FREQ. RANGE (-28dBm)	+	kHz	150	>100
	–	kHz	150	>100
2. ATSC DYNAMIC RANGE (min./max.)				
VHF LOW BAND. CH.4	---	dBμV	26/114	32/108
VHF HI BAND. CH.10		dBμV	26/114	32/108
UHF BAND. CH.41		dBμV	28/118	34/112
3. ATSC SUSCEPTIBILITY TO RANDOM NOISE				
VHF LOW BAND. CH.4	---	dB	20	<26
VHF HI BAND. CH.10		dB	20	<26
UHF BAND. CH.41		dB	20	<26
4. NTSC CO-CHANNEL INTERFERENCE				
VHF LOW BAND. CH.4	---	dB	0	>-6
VHF HI BAND. CH.10		dB	0	>-6
UHF BAND. CH.41		dB	0	>-6
5. MULTIPATH	A	dB	0	<6
	B	dB	0	<6
	C	dB	0	<6
	D	dB	0	<6
	E	dB	0	<6
	F	dB	0	<6
	FF	dB	0	<6
	G	dB	0	<6
6. Audio S/N (0dBfs)	L	dB	60	>50
	R	dB	60	>50
7. Audio DIST. (0dBfs)	L	%	0.1	<3
	R	%	0.1	<3

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

LASER BEAM SAFETY PRECAUTIONS

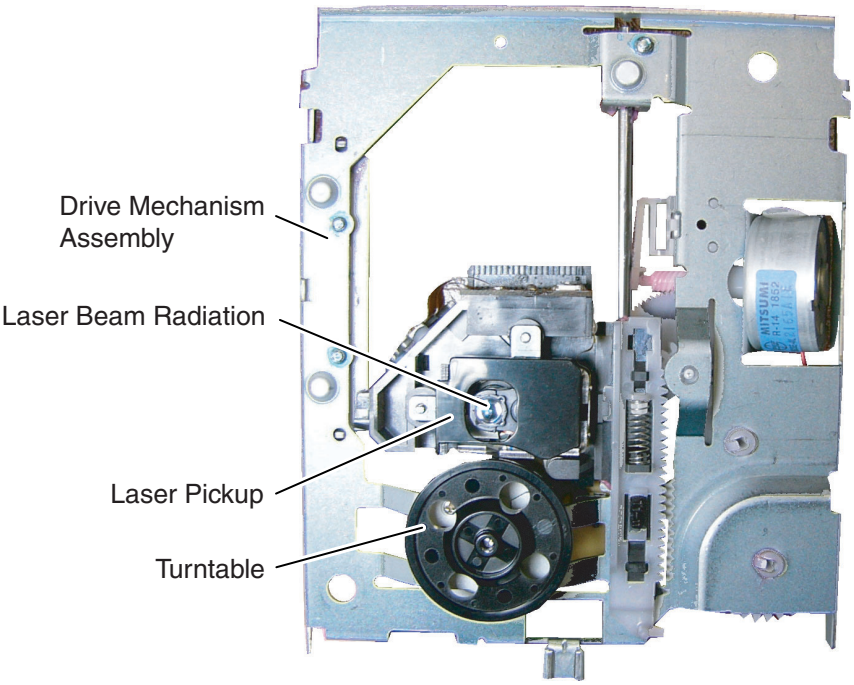
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

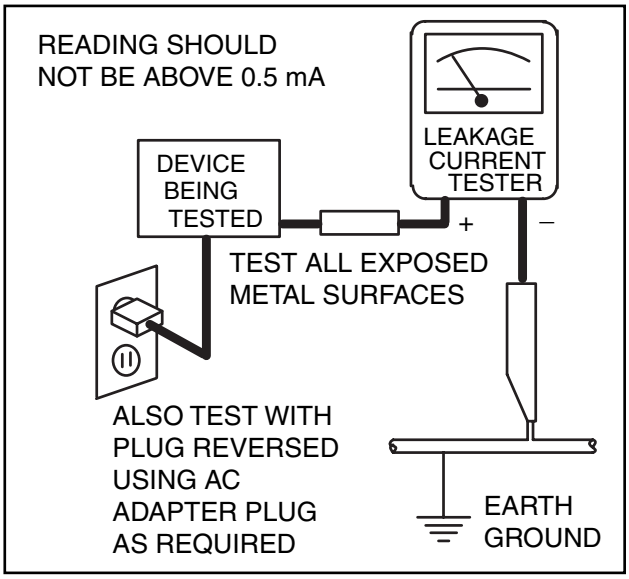
Location: Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:
   - **a.** Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
   - **b.** Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
   - **c. Antenna Cold Check -** With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
   - **d. Leakage Current Hot Check -** With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

- **e. X-Radiation and High Voltage Limits -** Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original.

Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called “horizontal disable” or “hold down.”) Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/ adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some “in-line” picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such “permanently attached” yokes from the picture tube.
5. **Hot Chassis Warning -**
   a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
   b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
   c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes

of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the DVD/VCR connectors, first, disconnect the AC plug from the AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

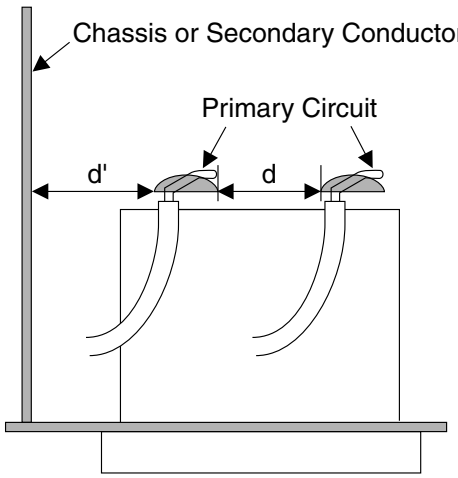


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

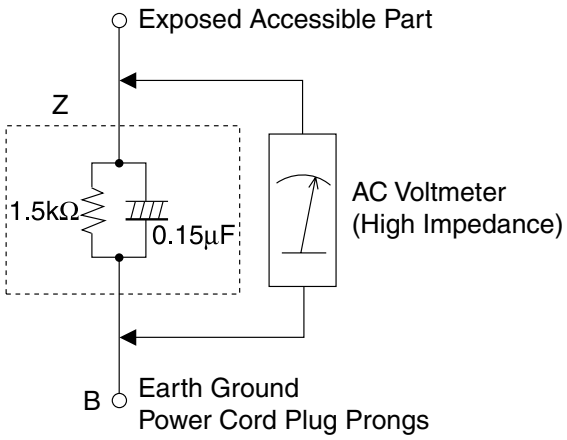


Fig. 2

Table 2: Leakage current ratings for selected areas

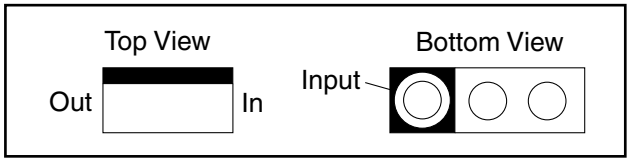
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

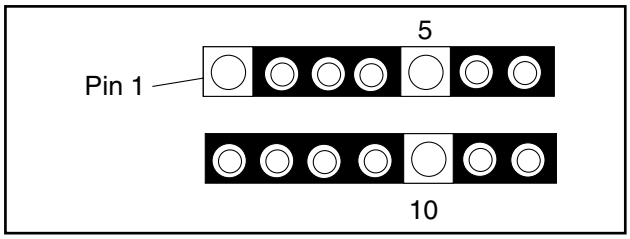
STANDARD NOTES FOR SERVICING

Circuit Board Indications

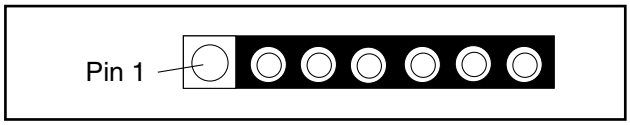
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

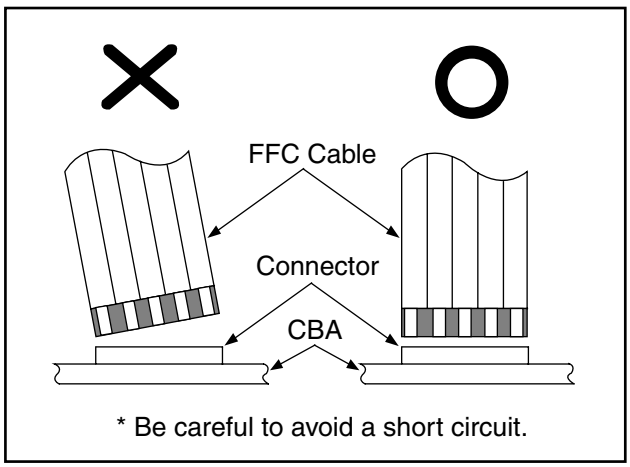


3. The 1st pin of every male connector is indicated as shown.



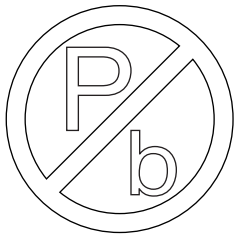
Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.



Pb free mark

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

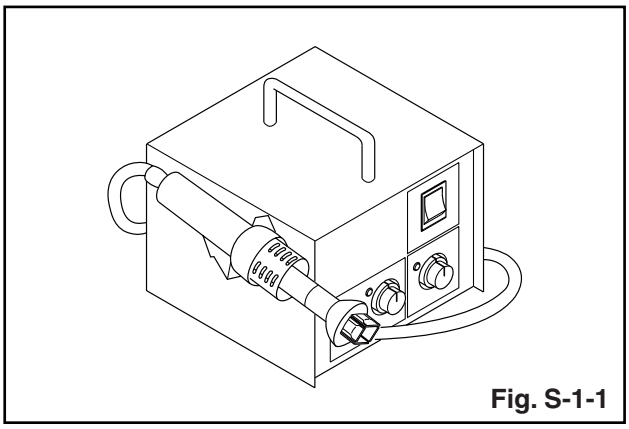


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape

around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

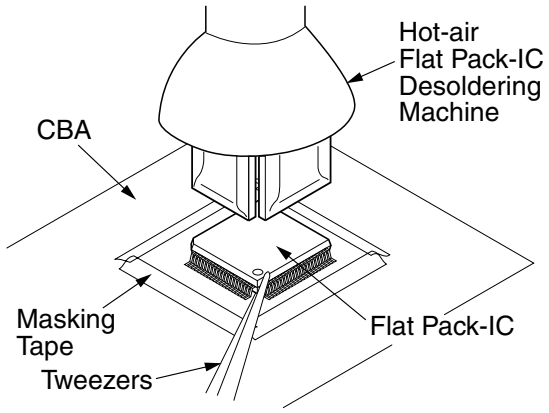


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

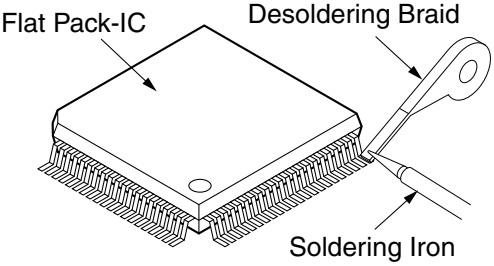


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

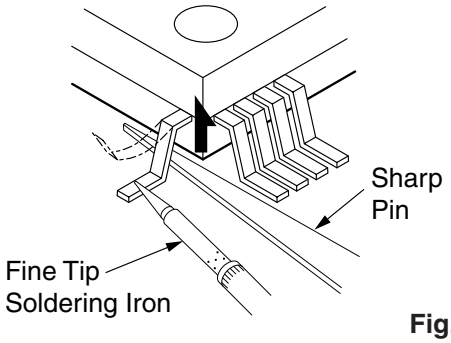


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

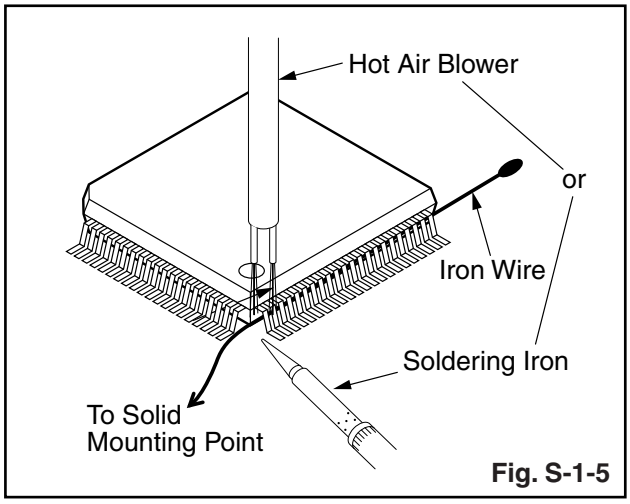


Fig. S-1-5

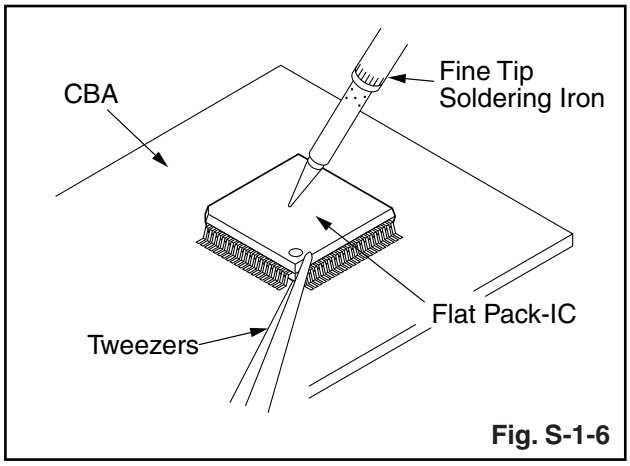


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

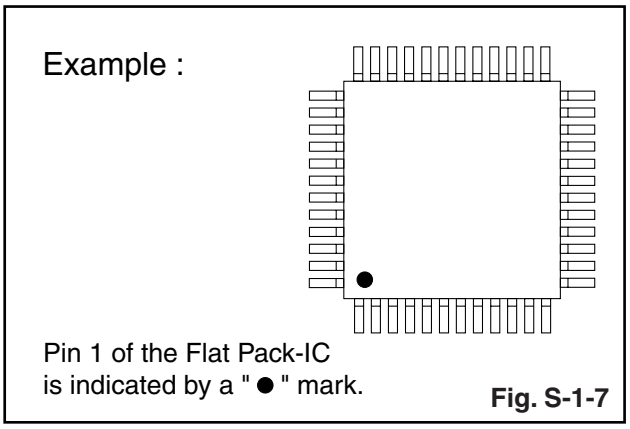


Fig. S-1-7

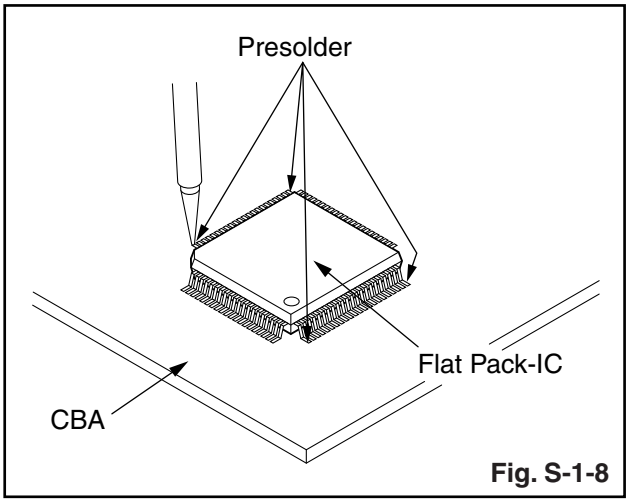


Fig. S-1-8

Instructions for Handling Semi-conductors

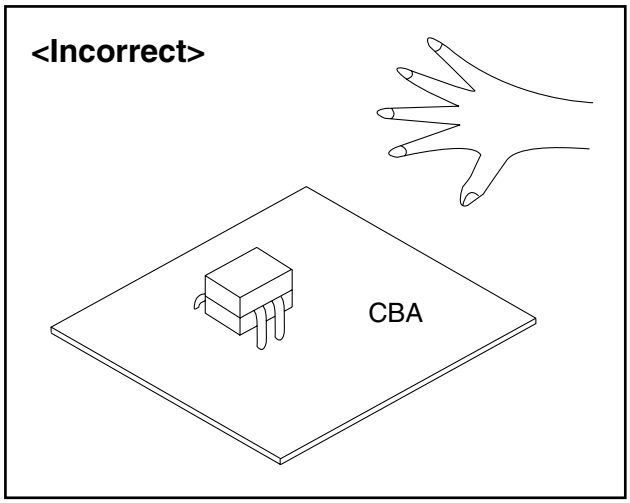
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

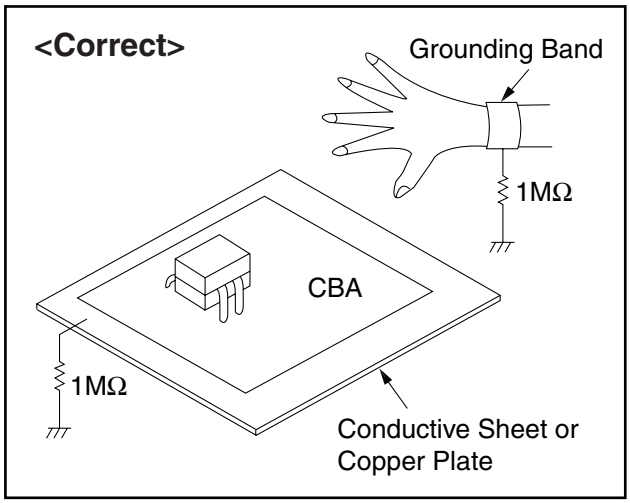
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





PREPARATION FOR SERVICING

How to Enter Service Mode

Caution 1:

1. Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing 1:

1. Cover Q1202 (START SENSOR) and Q1201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter Service Mode

1. Turn the power on.
2. Use service remote control unit and press [DISC MENU] button.
3. When entering the service mode, one of the number (1, 2 or 4) will be displayed at corners of the screen.
4. During Service mode, electrical adjustment mode can be selected by service remote control unit key.

   Details are as follows.

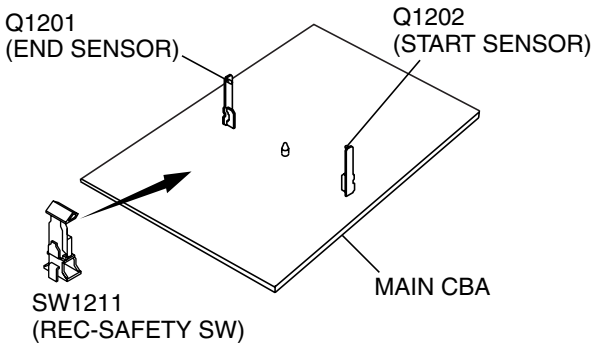
Key	Adjustment Mode
PICTURE	Picture adjustment mode in TV mode or DTV mode: Press the [PICTURE] button to change from BRT (Bright), *CNT (Contrast), *COL (Color), *TNT(Tint), *V-T(V-Tint) and *SHP (Sharpness). Press [CH. ▲/▼] buttons to display Initial Value. *Marked items are not necessary to adjust normally.
0	C-Trap adjustment mode in TV mode: See adjustment instructions.
1	No need to use.
2	H f_0 adjustment mode: See adjustment instructions.
3	U-/V-Pedestal adjustment mode in DTV mode: See adjustment instructions.
4	Auto record mode: Perform recording (15 Sec.) --> Stop --> Rewind (Zero return) automatically.
5	Head switching position adjustment: See adjustment instructions.
6	YUV Brightness up adjustment mode in DTV mode: See adjustment instructions.
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the [7] button is pressed.
8	H. Position adjustment: See adjustment instructions.
9	V. Position/V. Size adjustment: See adjustment instructions.
VOL ▲	No need to use.
VOL ▼	Cut-off/Drive adjustment: See adjustment instructions. White balance adjustment: See adjustment instructions.

Caution 2:

1. The deck mechanism assembly is mounted on the Main CBA directly, and SW1211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

Preparing 2:

1. To eject the tape, press the [STOP/EJECT] button on the unit (or remote control).
2. When you want to record during Service mode, press the [REC] button while depressing SW1211 (REC-SAFETY SW) on the Main CBA.



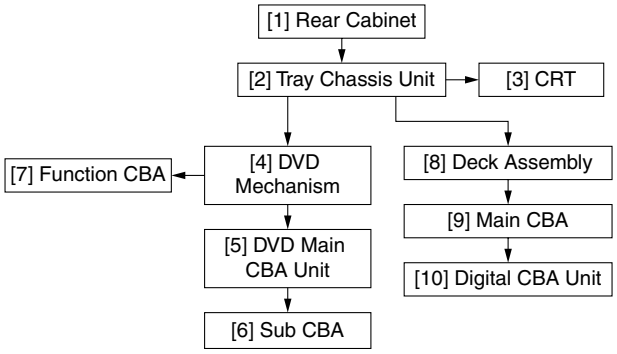
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Rear Cabinet	D1	7(S-1), (S-2), (S-3A), (S-3B)	---
[2]	Tray Chassis Unit	D2 D3 D5	Anode Cap, *CN2501, CRT CBA, *CN1601, *CN3802, *CN2571, *CN3801	1
[3]	CRT	D3 D5	4(S-4)	---
[4]	DVD Mechanism	D2 D4 D5	4(S-5), *CN201, *CN301	2, 3
[5]	DVD Main CBA Unit	D2 D4 D5	*CN1, *CN2	---
[6]	Sub CBA	D2 D5	6(S-6), *CN1103, *CN1301, *CN1302	---
[7]	Function CBA	D2 D5	(S-7), *CN2401	---
[8]	Deck Assembly	D2 D5	3(S-8), Top Shield, 7(S-9), (S-10), (S-11), *CL1201, *CL1401, *CL1402, *CL1403	4
[9]	Main CBA	D2	3(S-12), 2(S-13)	---
[10]	Digital CBA Unit		*CN1101, *CN1102	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)	

Note:

(1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.

(2) Parts to be removed or installed.

(3) Fig. No. showing procedure of part location

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5) Refer to the following “Reference Notes in the Table”.

Reference Notes in the Table

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. **CAUTION 1:** Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

   Disconnect the following: Anode Cap, CN2501, CRT CBA, CN1601, CN3802, CN2571 and CN3801. Then remove Tray Chassis Unit.

2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.
   To avoid damage of pickup follow next procedures.
   1) Disconnect Connector (CN301) on the DVD Main CBA Unit.
   2) Short the three short lands of FPC cable with solder before removing the FFC cable (CN201) from it. If you disconnect the FFC cable (CN201), the laser diode of pickup will be destroyed. (Fig. D4)
   3) Remove DVD Mechanism.
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D4)
4. Remove three screws (S-8) and remove Top Shield. Remove screws 7(S-9), (S-10) and (S-11). Then, desolder connectors (CL1201, CL1401, CL1402, CL1403) and lift up the Deck Assembly.

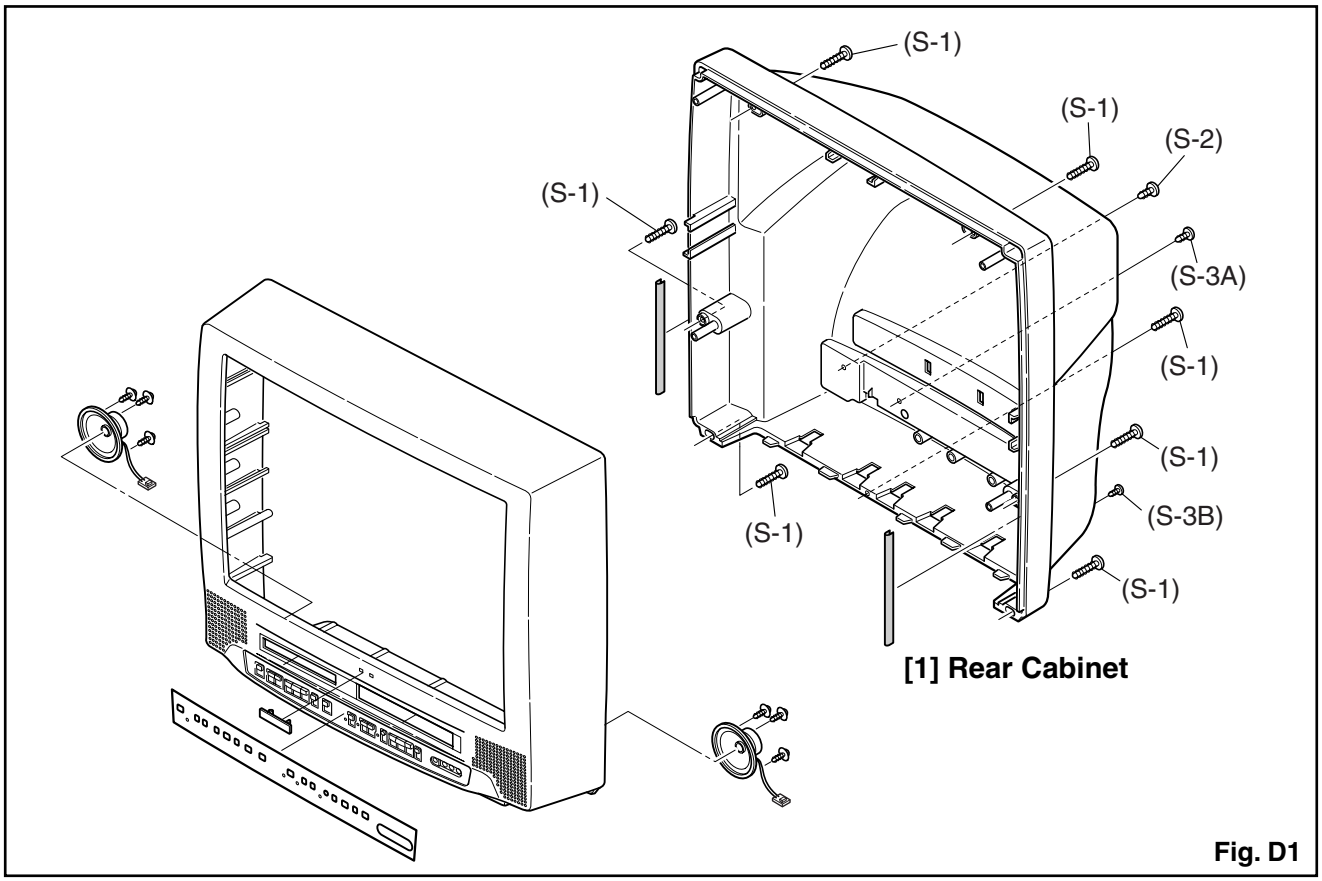


Fig. D1

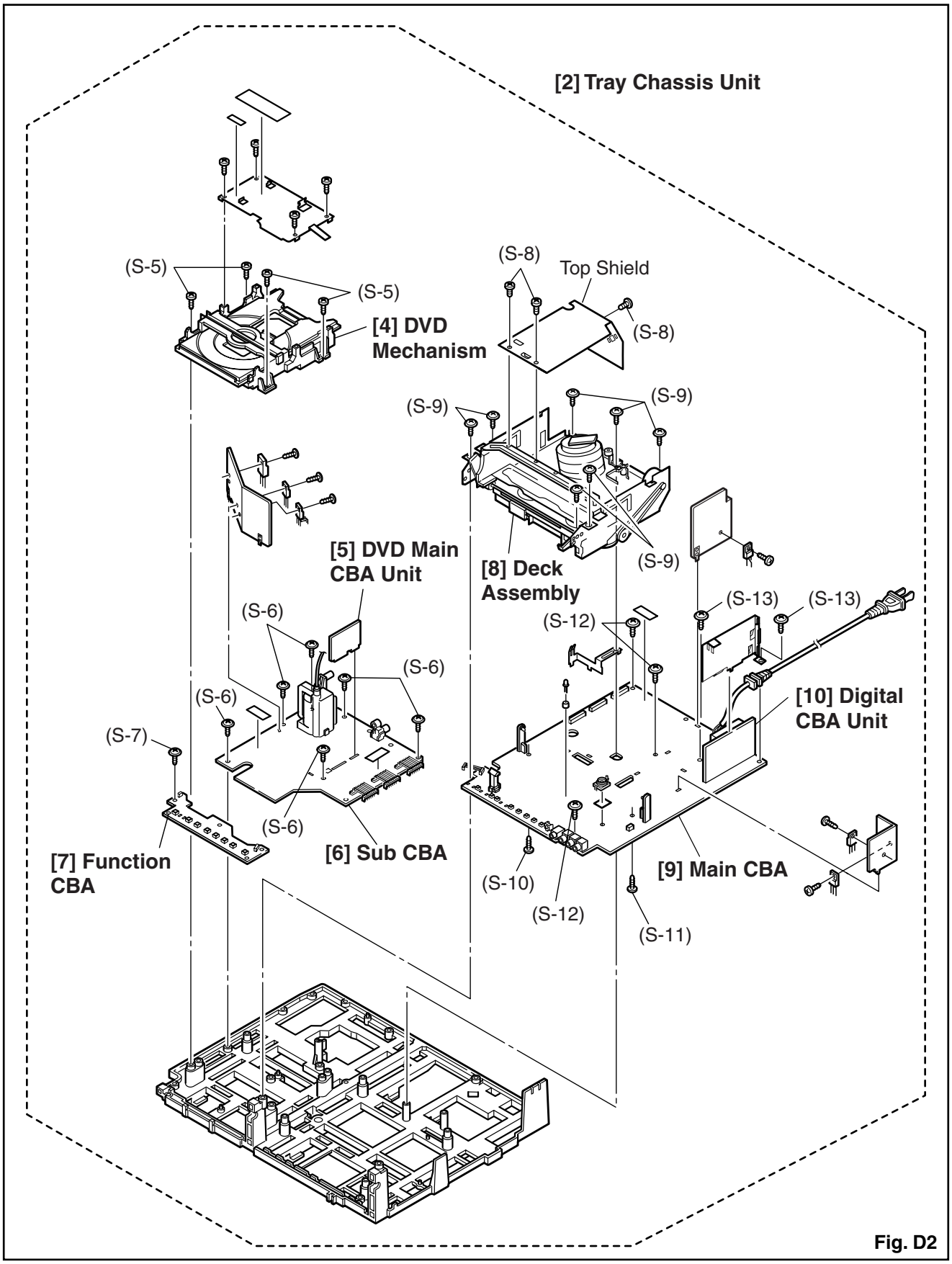

[2] Tray Chassis Unit
(S-5)
(S-5)
[4] DVD Mechanism
(S-8)
Top Shield
(S-8)
(S-9)
(S-9)
(S-9)
[5] DVD Main CBA Unit
[8] Deck Assembly
(S-6)
(S-6)
(S-6)
(S-6)
(S-7)
(S-12)
(S-13)
(S-13)
[10] Digital CBA Unit
[7] Function CBA
[6] Sub CBA
(S-10)
(S-12)
[9] Main CBA
(S-11)

Fig. D2

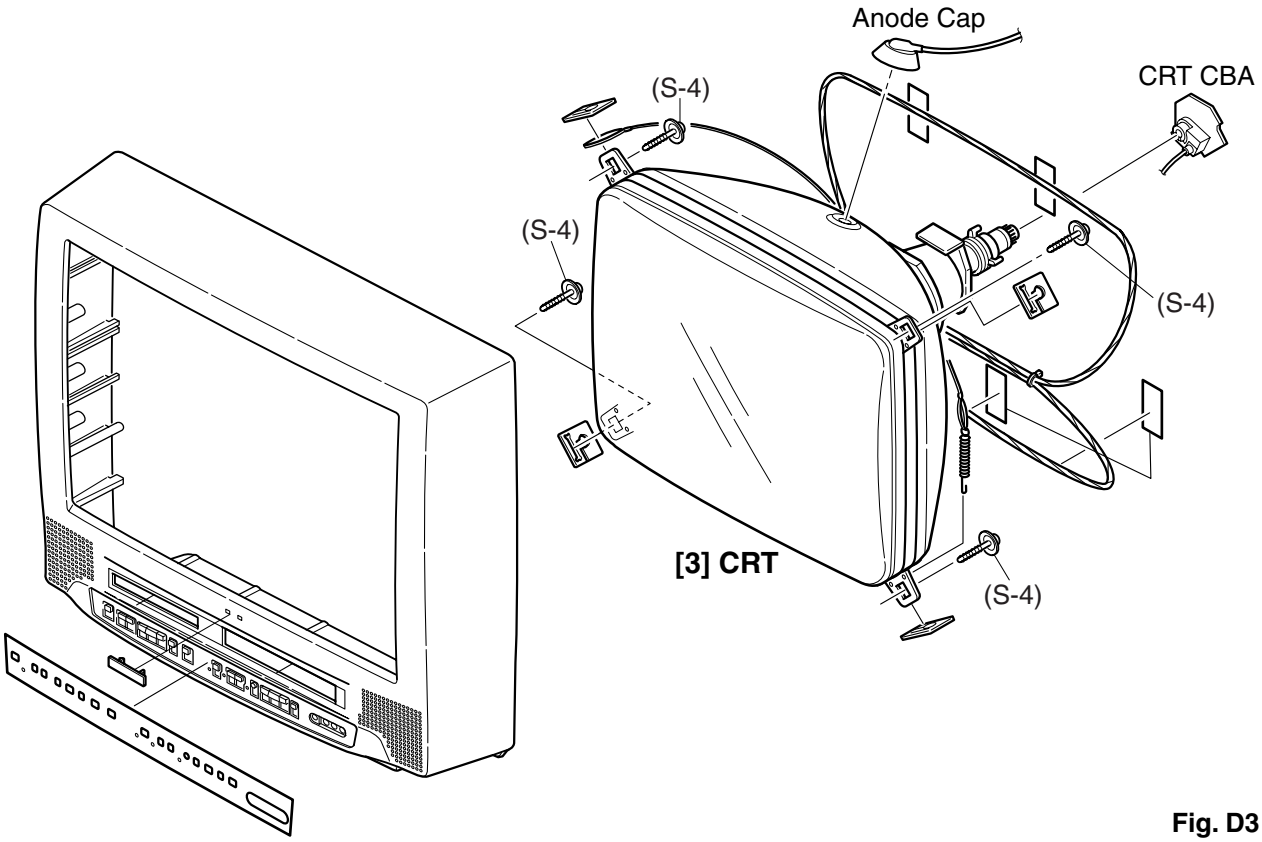
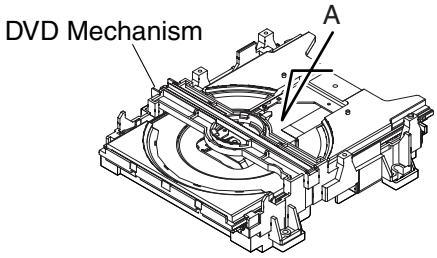


Fig. D3



Short the three short lands by soldering.
(Either of two places.)

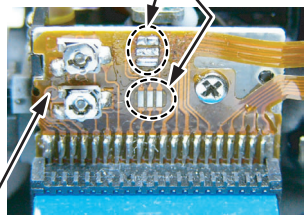


Fig. D4

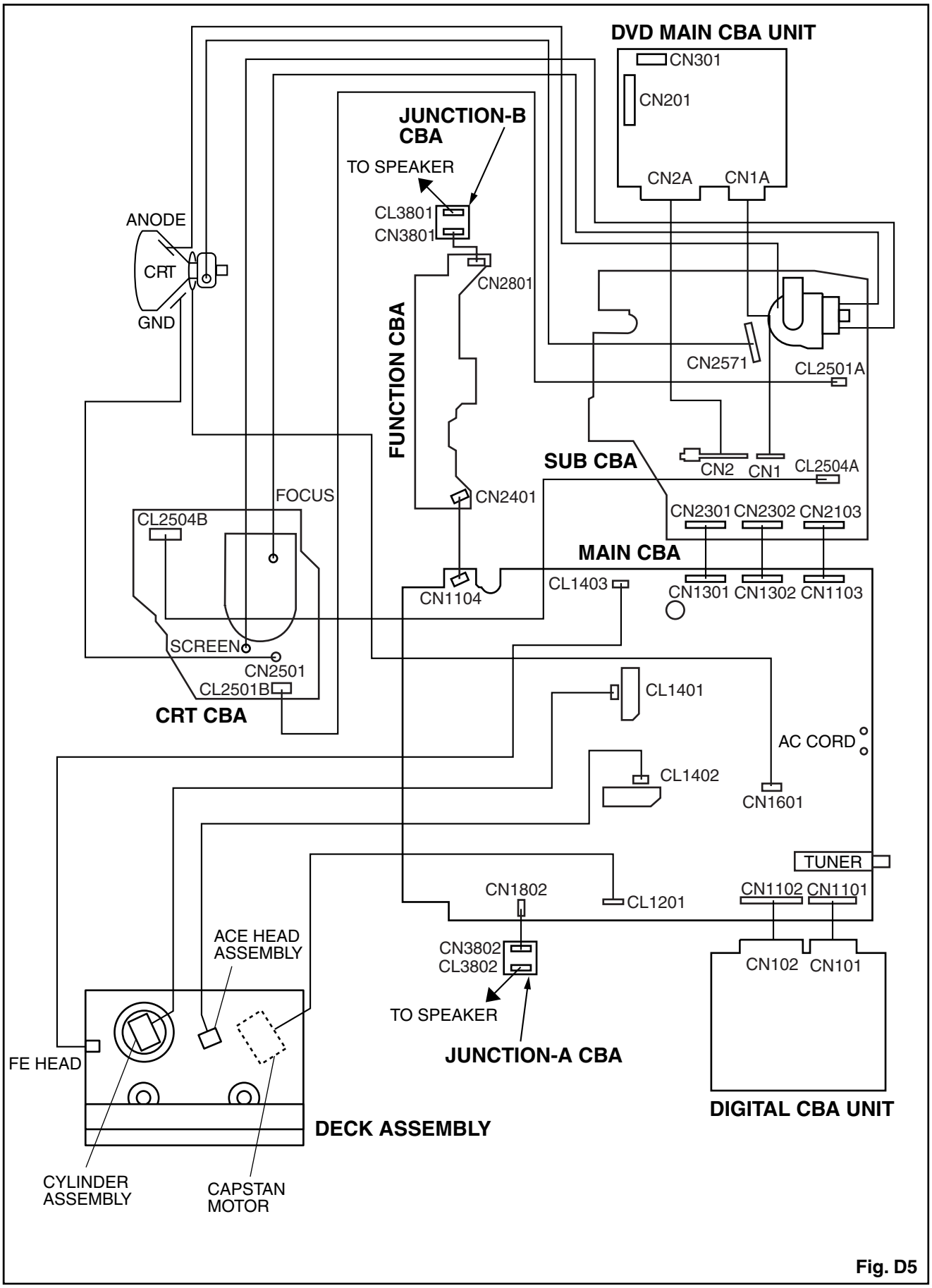

DVD MAIN CBA UNIT
CN301
CN201
CN2A
CN1A
JUNCTION-B CBA
TO SPEAKER
CL3801
CN3801
ANODE
CRT
GND
CN2801
FUNCTION CBA
CN2571
CL2501A
SUB CBA
CN2
CN1
CL2504A
FOCUS
CN2401
CN2301
CN2302
CN2103
CL2504B
MAIN CBA
CL1403
CN1104
CN1301
CN1302
CN1103
SCREEN
CN2501
CL2501B
CRT CBA
CL1401
AC CORD
CL1402
CN1601
TUNER
CN1802
CL1201
CN1102
CN1101
ACE HEAD ASSEMBLY
CN3802
CL3802
CN102
CN101
TO SPEAKER
JUNCTION-A CBA
FE HEAD
DIGITAL CBA UNIT
DECK ASSEMBLY
CYLINDER ASSEMBLY
CAPSTAN MOTOR

Fig. D5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50 V/Div,
   F-Range: DC~AC-60 MHz
6. Frequency Counter
7. Plastic Tip Driver
8. Color Analyzer

How to make service remote control unit:

1. Prepare normal remote control unit (Part No. NE204UD or NE209UD). Remove 4 screws from the back lid (Fig. 1).

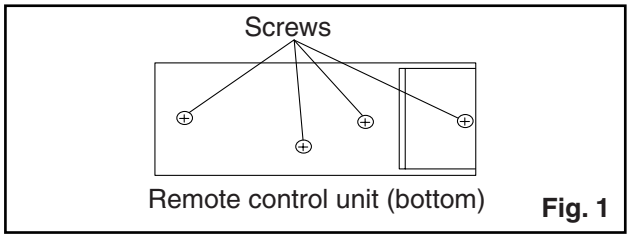


Fig. 1

2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire.

How to enter Service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. To change TV mode, DTV mode, or DVD mode, press [SELECT] button on the TV unit.
4. Press [DISC MENU] button on the service remote control unit. Version of micro computer will display on the CRT. (Ex: BA4-0.16)

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short both ends of R2592 (on Sub CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D2591, Q2591, R2592, R2593, R2594 and IC1201).
4. Perform steps 1 to 3 again.

1. DC 127V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and unit does not operate correctly.

Test Point	Adj. Point	Mode	Input
TP2501(+B) TP2504(GND)	VR1601	---	---
Tape	**M. EQ.**	**Spec.**	
---	DC Voltmeter	+127±1.0 V DC	

Note: TP2501(+B), TP2504(GND) --- Sub CBA, VR1601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Voltmeter to TP2501(+B) and TP2504(GND).
3. Adjust VR1601 so that the voltage of TP2501(+B) becomes +127±1.0 V DC.

2. Setting for CONTRAST, COLOR, TINT, V-TINT and SHARPNESS Data Values

<TV mode (Composite block)>

1. Enter Service mode in TV mode.
2. Press [PICTURE] button on the service remote control unit. Display changes “BRT,” “CNT,” “COL,” “TNT,” “V-T,” and “SHP” cyclically when [1] button is pressed.

CONTRAST (CNT)

1. Press [1] button to selcet “CONTRAST (CNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “CONTRAST (CNT)” becomes “90”.

COLOR (COL)

1. Press [1] button to select “COLOR (COL)” display.
2. Press [CH. ▲/▼] buttons so that the value of “COLOR (COL)” becomes “58”.

TINT (TNT)

1. Press [1] button to select “TINT (TNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “TINT (TNT)” becomes “56”.

V-TINT (V-T)

1. Press [1] button to select “V-TINT (V-T)” display.
2. Press [CH. ▲/▼] buttons so that the value of “V-TINT (V-T)” becomes “56”.

SHARPNESS (SHP)

1. Press [1] button to select “SHARPNESS (SHP)” display.
2. Press [CH. ▲/▼] buttons so that the value of “SHARPNESS (SHP)” becomes “48”.

Note: **BRIGHT** data value does not need to be adjusted because this setting is performed in other setting.

<DVD mode (Y-C block)>

1. Enter Service mode in DVD mode.
2. Press [PICTURE] button on the service remote control unit. Display changes “YC-BRT,” “YC-CNT,” “YC-COL,” “YC-TNT,” and “YC-SHP” cyclically when [2] button is pressed.

YC-CONTRAST (YC-CNT)

1. Press [2] button to selcet “YC-CONTRAST (YC-CNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-CONTRAST (YC-CNT)” becomes “85”.

YC-COLOR (YC-COL)

1. Press [2] button to select “YC-COLOR (YC-COL)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-COLOR (YC-COL)” becomes “58”.

YC-TINT (YC-TNT)

1. Press [2] button to select “YC-TINT (YC-TNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-TINT (YC-TNT)” becomes “56”.

YC-SHARPNESS (YC-SHP)

1. Press [2] button to select “YC-SHARPNESS (YC-SHP)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-SHARPNESS (YC-SHP)” becomes “35”.

<DTV mode (YUV block)>

1. Enter Service mode in DTV mode.
2. Press [PICTURE] button on the service remote control unit. Display changes “YUV-BRT,” “YUV-CNT,” “YUV-COL,” “YUV-TNT,” and “YUV-SHP” cyclically when [PICTURE] button is pressed.

YUV-CONTRAST (YUV-CNT)

1. Press [PICTURE] button to selcet “YUV-CONTRAST (YUV-CNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-CONTRAST (YUV-CNT)” becomes “90”.

YUV-COLOR (YUV-COL)

1. Press [PICTURE] button to select “YUV-COLOR (YUV-COL)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-COLOR (YUV-COL)” becomes “58”.

YUV-TINT (YUV-TNT)

1. Press [PICTURE] button to select “YUV-TINT (YUV-TNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-TINT (YUV-TNT)” becomes “56”.

YUV-SHARPNESS (YUV-SHP)

1. Press [PICTURE] button to select “YUV-SHARPNESS (YUV-SHP)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-SHARPNESS (YUV-SHP)” becomes “48”.

3. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test Point	Adj. Point	Mode	Input
TP1301 (B-OUT)	[CH ▲ / ▼] buttons	---	Color Bar
Tape	**M. EQ.**	**Spec.**	
---	Oscilloscope Pattern Generator	---	

Figure

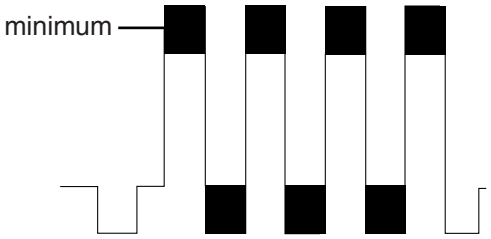


Fig. 2

Note: TP1301(B-OUT) --- Sub CBA

1. Connect oscilloscope to TP1301.
2. Input a color bar signal from RF input.
   Enter Service mode.
3. Press [0] button on the remote control unit and select C-TRAP mode.
4. Press [CH ▲ / ▼] buttons on the remote control unit so that the carrier leakage B-Out (3.58 MHz) value becomes minimum on the oscilloscope.

4. H f_0 Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adj. Point	Mode	Input
R2583	[CH. ▲ / ▼] buttons	Video	---
Tape	**M. EQ.**	**Spec.**	
---	Frequency Counter	15.734 kHz±300 Hz	

Note: R2583 --- Sub CBA

1. Connect frequency counter to R2583.
2. Operate the unit for at least 20 minutes.
3. Enter Service mode.
4. Press [2] button on the remote control unit and select H-ADJ mode.
5. Press [CH. ▲/▼] buttons on the remote control unit so that the display will change “0” to “7.”
6. At this moment, choose display “0” to “7” when the frequency counter display is closest to 15.734 kHz ± 300 Hz.

5. Cut-off/Drive Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adj. Point	Mode	Input
---	Screen-Control [CH. ▲ / ▼] buttons	RF	Black Raster
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See Reference Notes below.	

Figure

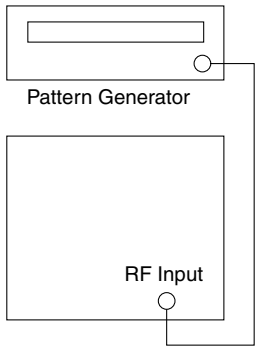


Fig. 2

Notes: Screen Control --- FBT (Sub CBA),
FBT = Fly Back Transformer,
Use the service remote control unit.

1. Degauss the CRT and allow the unit to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from RF input.
3. Enter Service mode in TV mode.
4. Press the [VOL ▼] button.
(Display changes “C/D”, “7F”, and Initial setting cyclically when [VOL ▼] button pressed.)
5. Press [1] button to select “CUT OFF (R) (COR)”. Then, press the [CH. ▲/▼] buttons until the horizontal line becomes white.
6. Press [2] button to select “CUT OFF (G) (COG)”. Then, press [CH. ▲/▼] buttons until the horizontal line becomes white.
7. Press [3] button to select “CUT OFF (B) (COB)”. Then, press [CH. ▲/▼] buttons until the horizontal line becomes white.

6. H. Size Adjustment

Purpose: To obtain correct size of screen image.

Symptom of Misadjustment: Size of screen image may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	VR2531	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	90%±5%	

Note: VR2531 --- Sub CBA

1. Input monoscope pattern.
2. Adjust VR2531 so that the monoscope pattern is 90%±5% of display size and the circle is round.

7. H. Pincushion Adjustment

Purpose: To obtain straight line on the screen.

Symptom of Misadjustment: Straight line image may not be properly displayed.

Test point	Adj. Point	Mode	Input
---	VR2530	---	Crosshatch
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Note: VR2530 --- Sub CBA

1. Input crosshatch pattern.
2. Adjust VR2530 so that the lines of the crosshatch pattern become straight.

8. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. ▲/▼] buttons	RF	White Raster (APL 100%)
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator, Color analyzer	See below	
Figure			

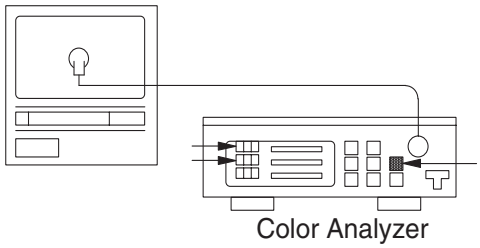


Fig. 3

Note: Use service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to the east. Degauss the CRT using a degaussing coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter Service mode in TV Mode.
6. Press [VOL ▼] button on the service remote control unit and select “C/D” mode. (Display changes “C/D”, “7F” and Initial Setting cyclically when [VOL ▼] button is pressed.)
7. Press [4] button to select “DRIVE (R) (DR)” for Red adjustment. Press [5] button to select “DRIVE (B) (DB)” for Blue adjustment.
8. In each color mode, press [CH. ▲/▼] buttons to adjust the values of color.
9. Adjust Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) ±3%.
10. At this time, re-check that horizontal line is white. If not, re-adjust Cut-off Adjustment until the horizontal line becomes pure white.
11. Turn off and on again to return to normal mode. Receive APL 100% white signal and confirm that Chroma temperatures become 9200K (x: 286 / y: 294) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

9. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	SMPTE 7.5IRE
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	
Figure			

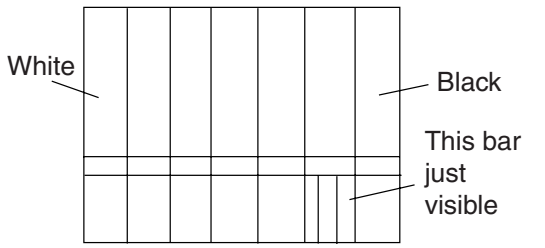


Fig. 4

Note: SMPTE Setup level --- 7.5 IRE

1. Enter Service mode.
   Then input SMPTE signal from RF input.
2. Press [PICTURE] button.
3. Press [1] button to selcet “BRT” display. (Display changes “BRT,” “CNT,” “COL,” “TNT,” “V-T,” and “SHP” cyclically when [1] button is pressed.)
4. Press [CH ▲/▼] buttons so that the bar is just visible (See above figure).

10. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus VR	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Note: Focus VR --- FBT (Sub CBA),
FBT = Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the monoscope pattern.
4. Adjust the Focus VR on the FBT to obtain a clear picture.

11. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: H. position may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	---	

1. Enter Service mode.
   Press [8] button on the remote control unit and select H-P mode.
2. Input monoscope pattern.
3. Press [CH. ▲/▼] buttons on the remote control unit so that the left and right side of the monoscope pattern are equal to each other.

12. V. Position Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	---	

1. Enter Service mode.
   Press [9] button on the remote control unit and select V-P mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH. ▲/▼] buttons on the remote control unit so that the top and bottom of the monoscope pattern are equal to each other.

13. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	90%±5%	

1. Enter Service mode.
   Press [9] button on the remote control unit and select V-S mode. (Press [9] button then display will change to V-P and V-S).
2. Input monoscope pattern.
3. Press [CH. ▲/▼] buttons on the remote control unit so that the monoscope pattern is 90%±5% of display size and the circle is round.

14. Head Switching Position Adjustment

Purpose: Determine the Head Switching Position during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (VFMS0001H6).
2. Enter Service mode.
   Then press the number [5] button on the remote control unit.
3. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7μs) is preferable.
4. Press [CH. ▲] or [CH. ▼] button on the remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
   Lower out of range: 0.0H
   Upper out of range: -.-H

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

15. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Figure

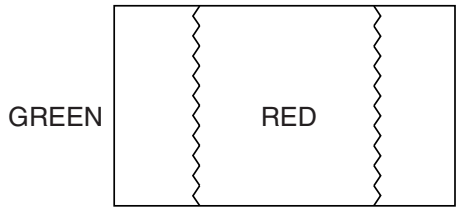


Fig. 5

* This becomes RED COLOR if the [7] button is pressed while in service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5, 6.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

16. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adj. Point	Mode	Input
---	C.P. Magnet (RB) C.P. Magnet (RB-G) Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Figure

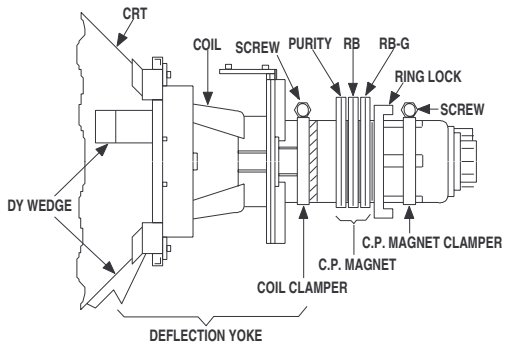


Fig. 6

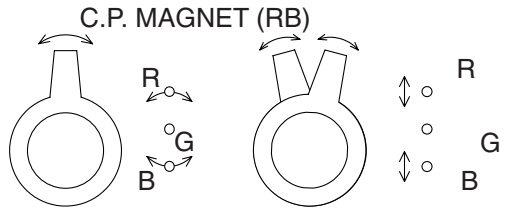


Fig. 7

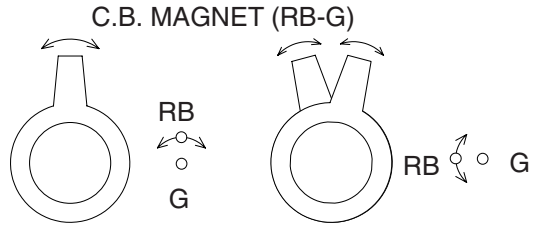


Fig. 8

1. Set the unit to the AUX mode which is located before CH2 then input a dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8.)
4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

HOW TO INITIALIZE THE TV/DVD/VCR

To put the program back at the factory-default, initialize the TV/DVD/VCR as the following procedure.

< DVD Section >

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode.
2. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. a appears on the screen.

"*******" differ depending on the models.

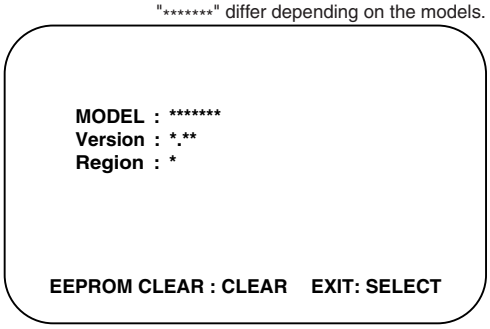


Fig. a

3. Press [CLEAR] button on the remote control unit.
   Fig. b appears on the screen.

"*******" differ depending on the models.

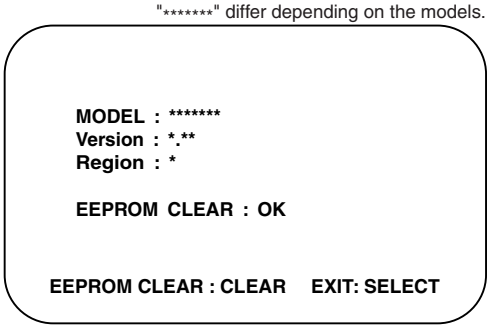


Fig. b

   When “OK” appears on the screen, the factory default will be set.
4. To exit this mode, press [CH. ▲/▼] or [SELECT] button to go to TV mode, or press [POWER] button to turn the power off.

< TV/VCR Section >

1. Use the service remote control unit.
2. Turn the power on and press [SELECT] button to select TV mode. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter Service mode. (Refer to “How to enter Service mode” on page 1-7-1.)
4. Press [VOL ▼] button on the service remote control unit twice, and confirm that OSD indication is “7F = FF.” If needed, set it to become “7F = FF” by pressing [CH. ▲/▼] buttons on the service remote control unit.
5. Confirm that OSD indication on the four corners on TV screen changes from on and off light indication to red by pressing [DISPLAY] button. (It is necessary for one or two seconds.)
6. Press [POWER] button to release from Service mode.

< DTV Section >

1. Use the service remote control unit.
2. Turn the power on and press [SELECT] button to select DTV mode. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter Service mode. (Refer to “How to enter Service mode” on page 1-7-1.)
4. Confirm that OSD indication on the four corners on TV screen changes to red by pressing [DISPLAY] button.
5. Press [POWER] button to release from Service mode.
6. Press [SELECT] button to change to AUX mode.

< Both TV/VCR and DTV Section >

1. Turn the power on and press [SELECT] button to select DTV mode.
2. Press [DISC MENU] button to enter Service mode.
3. Press [DISPLAY] button to initialize in DTV mode.
4. Press [POWER] button to release from Service mode.
5. Press [SELECT] button to change to AUX mode.
6. Press [DISC MENU] button to enter Service mode.
7. Press [DISPLAY] button to initialize in TV mode.
8. Press [POWER] button (or [RETURN] and [5] buttons) to release from Service mode. Initializing is complete.

FIRMWARE RENEWAL MODE

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode. Then remove the disc on the tray. (It is possible to move to F/W version up mode only when the TV/DVD/VCR is in DVD mode with the tray open.)
2. To put the TV/DVD/VCR into F/W version up mode, press [9], [8], [7], [6], and [MODE] buttons on the remote control unit in that order.
   Fig. a appears on the screen.

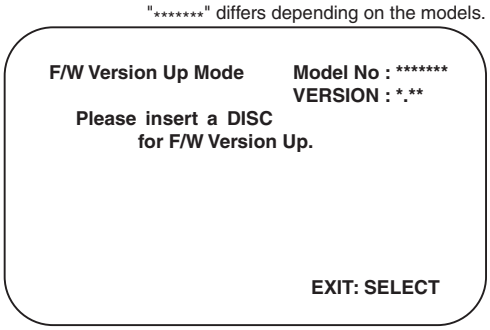


Fig. a Version Up Mode Screen

   The TV/DVD/VCR can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The TV/DVD/VCR enters the F/W version up mode automatically. Fig. b appears on the screen. If you enter the F/W for different models, “Disc Error” will appear on the screen, then the tray will open automatically.

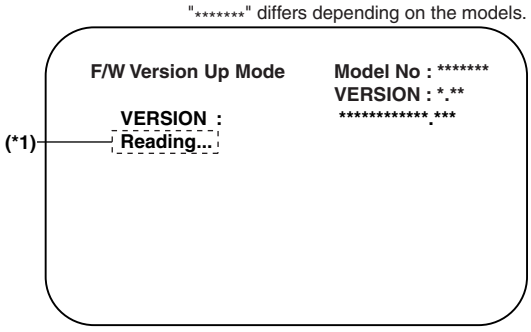


Fig. b Programming Mode Screen

   The appearance shown in (*1) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen and the checksum will be shown in (*2) of Fig. c.

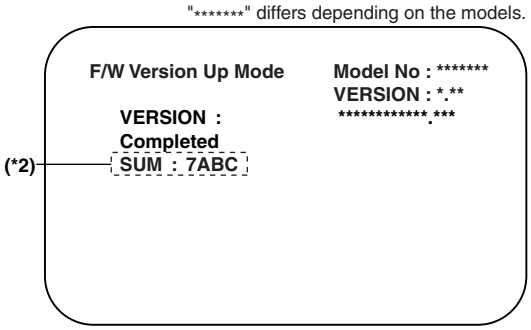


Fig. c Completed Program Mode Screen

   At this time, no button is available.

6. Remove the disc on the tray.
7. Press [SELECT] button on the remote control unit to go to TV mode, or press [POWER] button on the unit to turn the power off.
8. Press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode again.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. d appears on the screen.

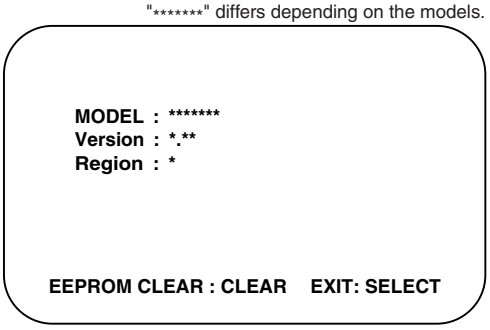


Fig. d

10. Press [CLEAR] button on the remote control unit.
    Fig. e appears on the screen.

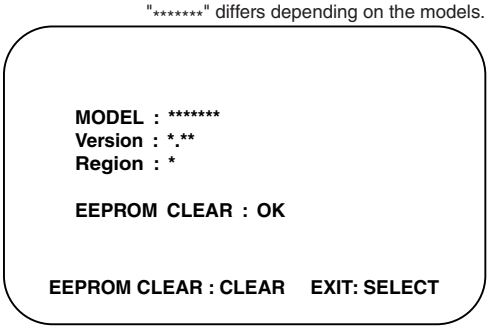


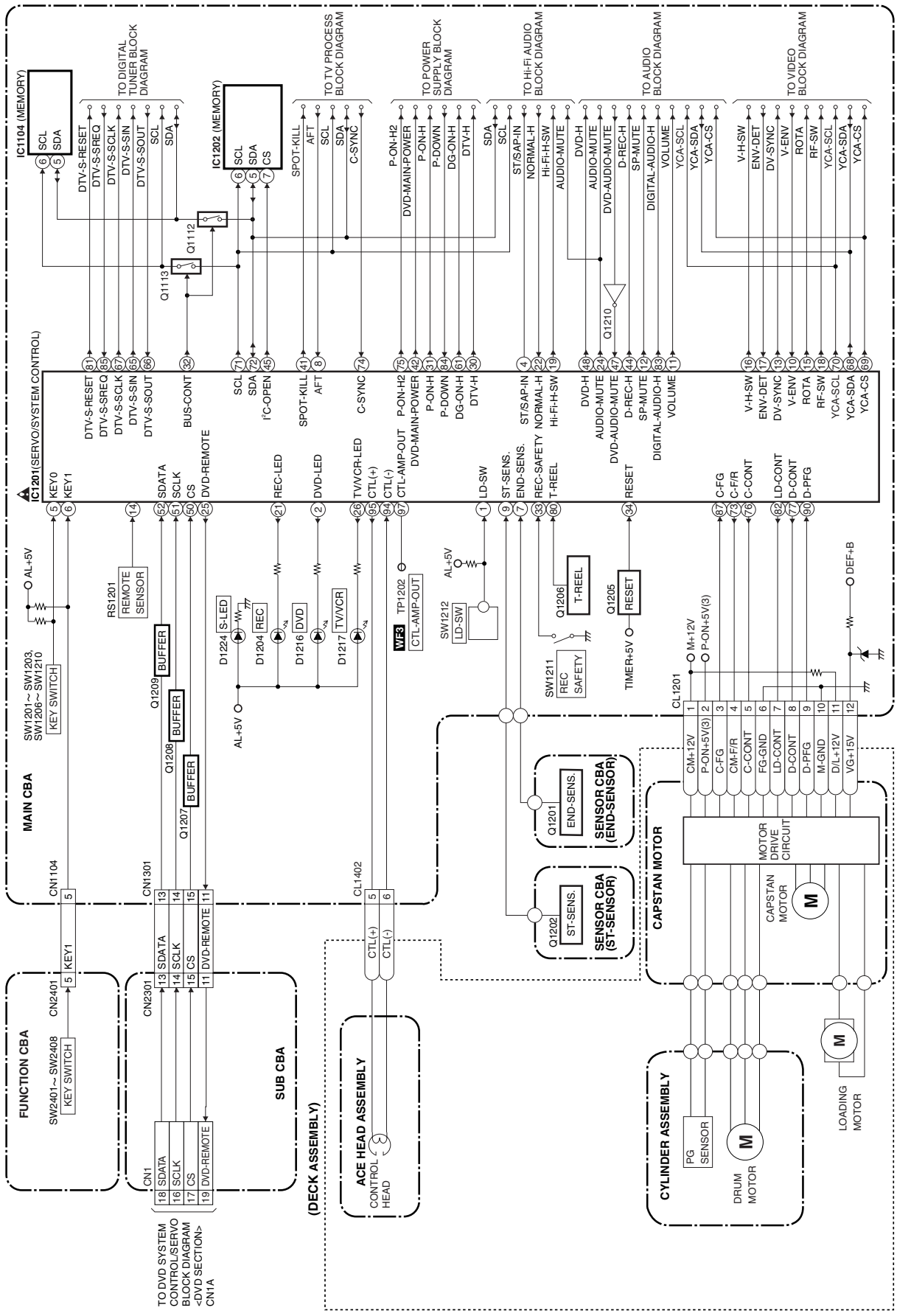
Fig. e

    When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

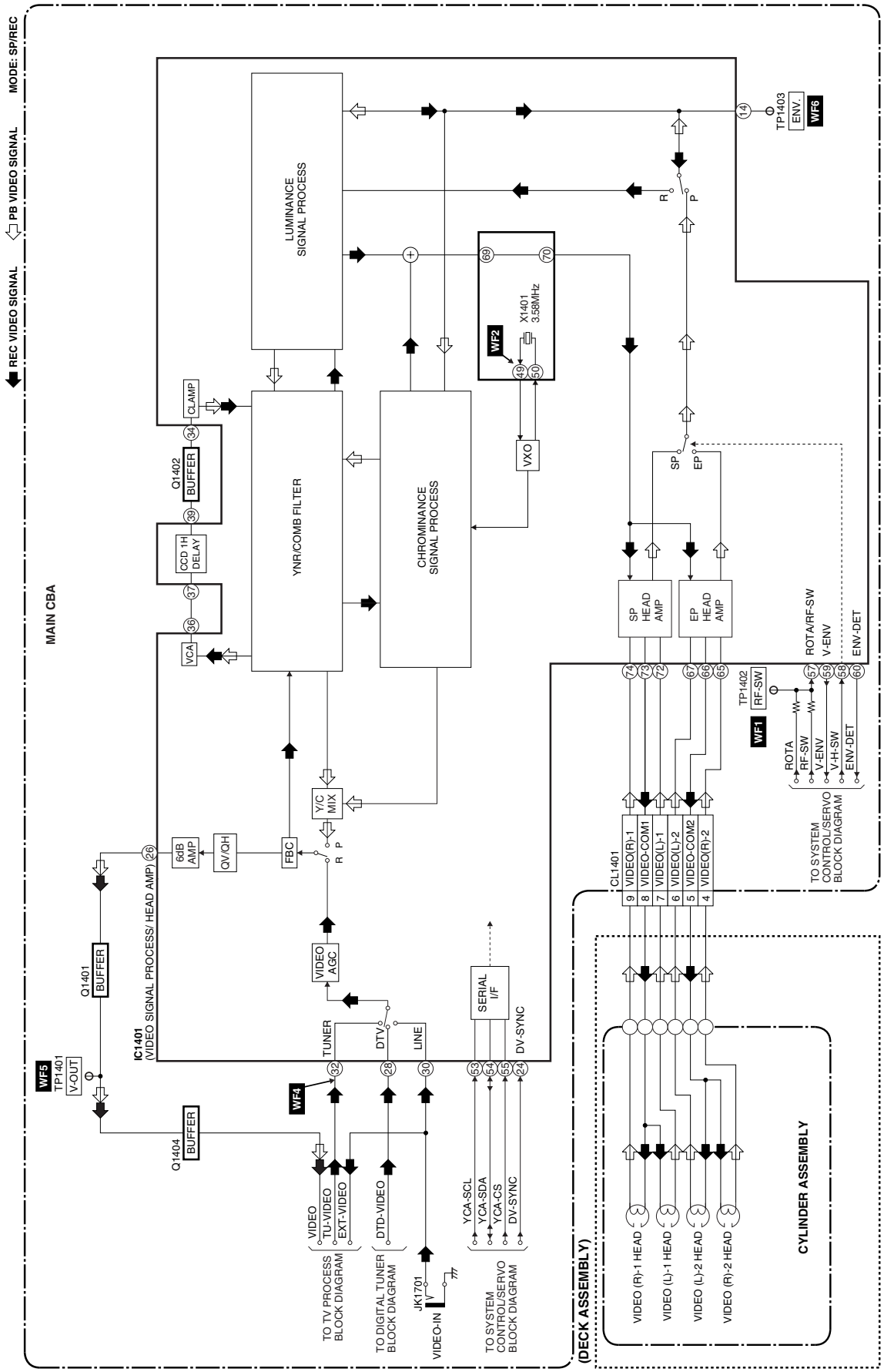
11. To exit this mode, press [CH. ▲ / ▼] or [SELECT] button to go to TV mode, or press [POWER] button to turn the power off.

BLOCK DIAGRAMS < TV/VCR Section >

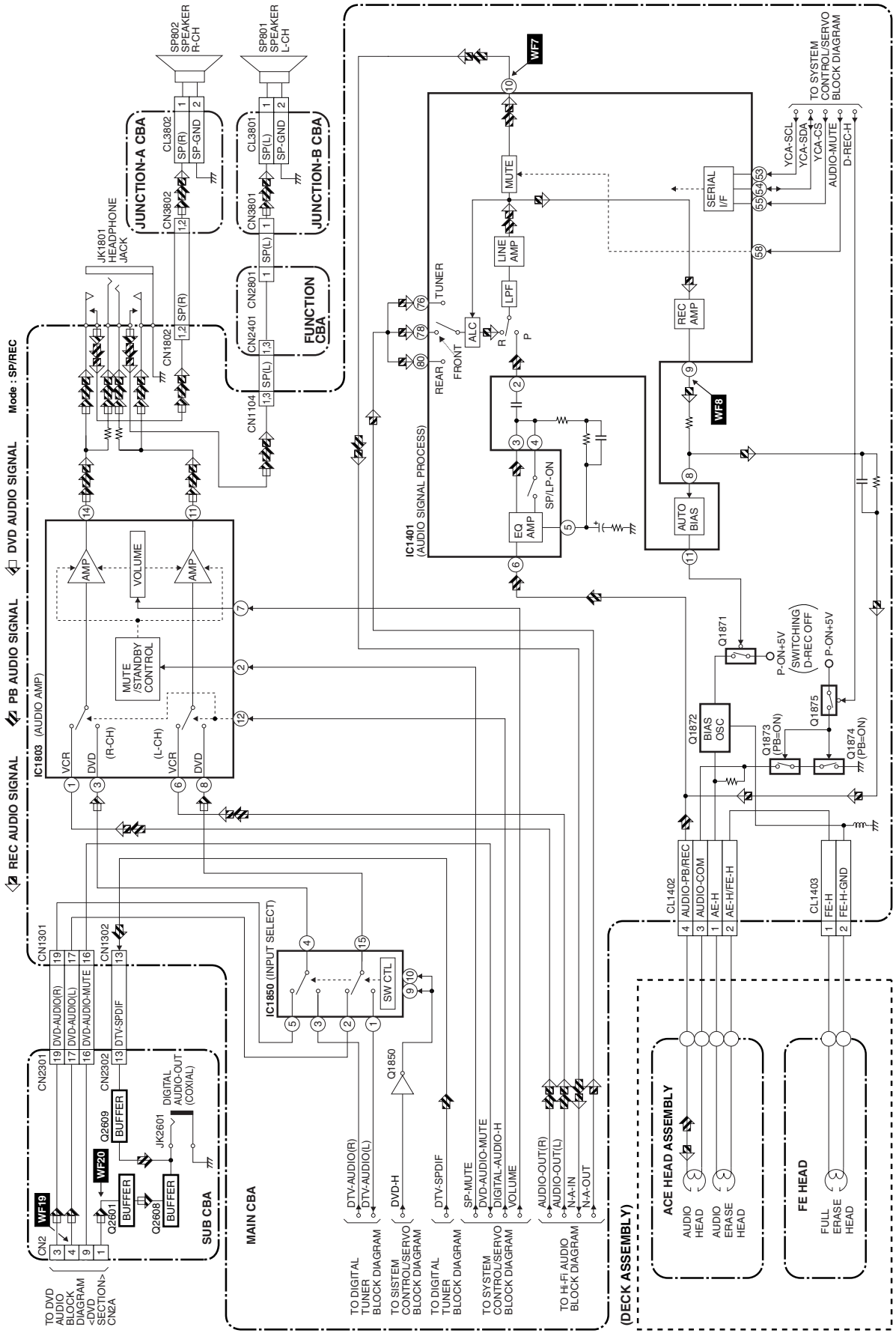
System Control / Servo Block Diagram



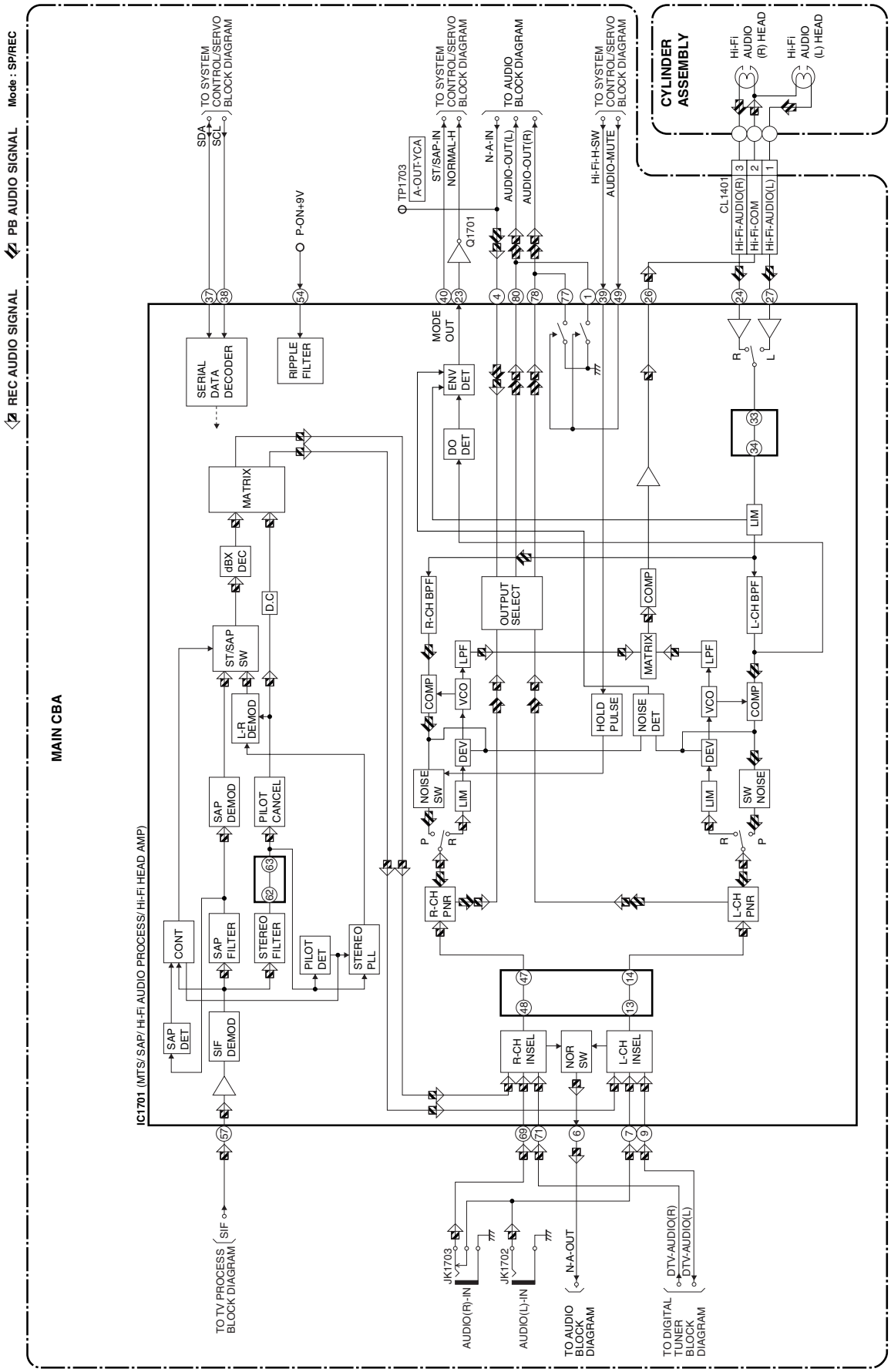
Video Block Diagram



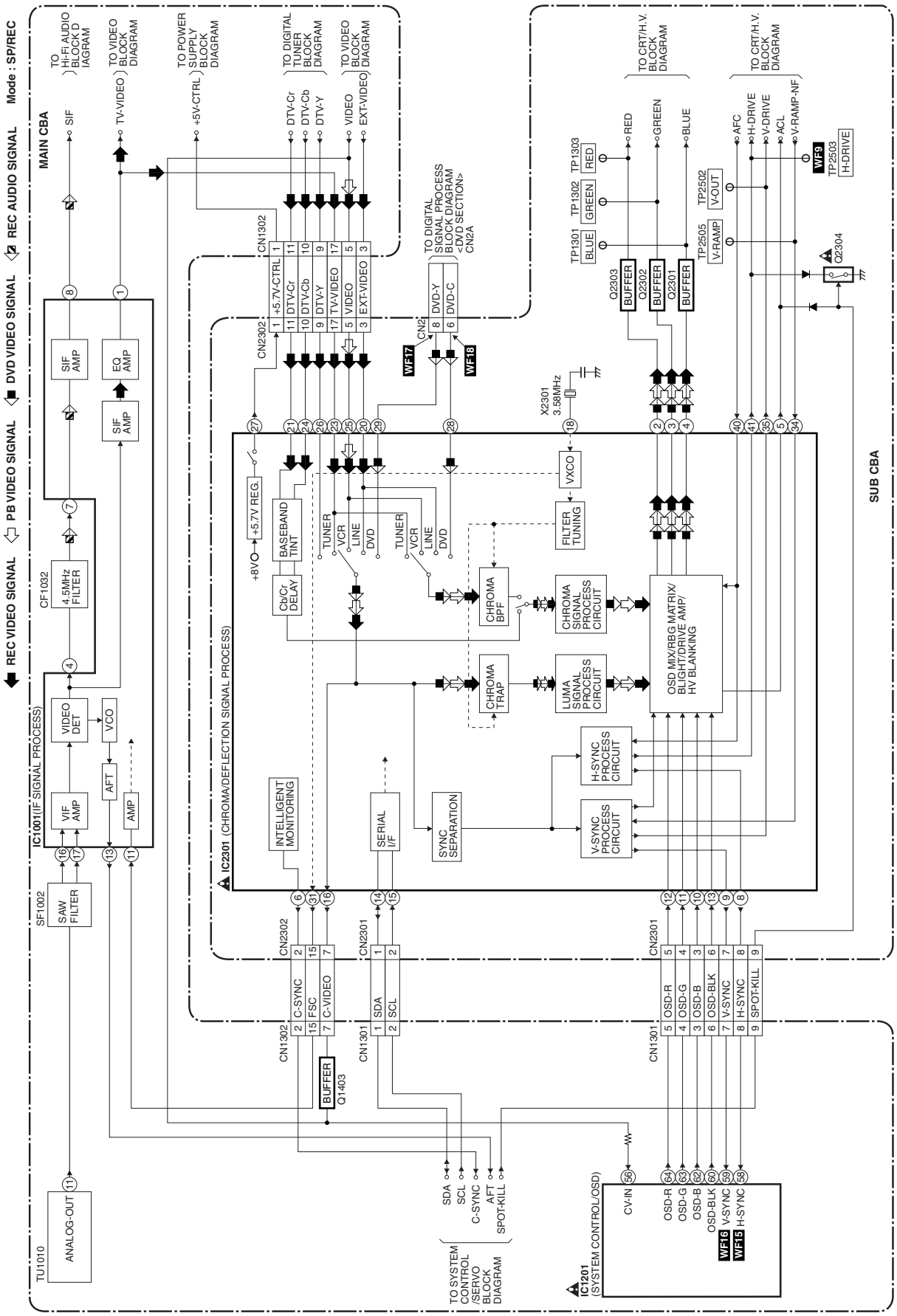
Audio Block Diagram



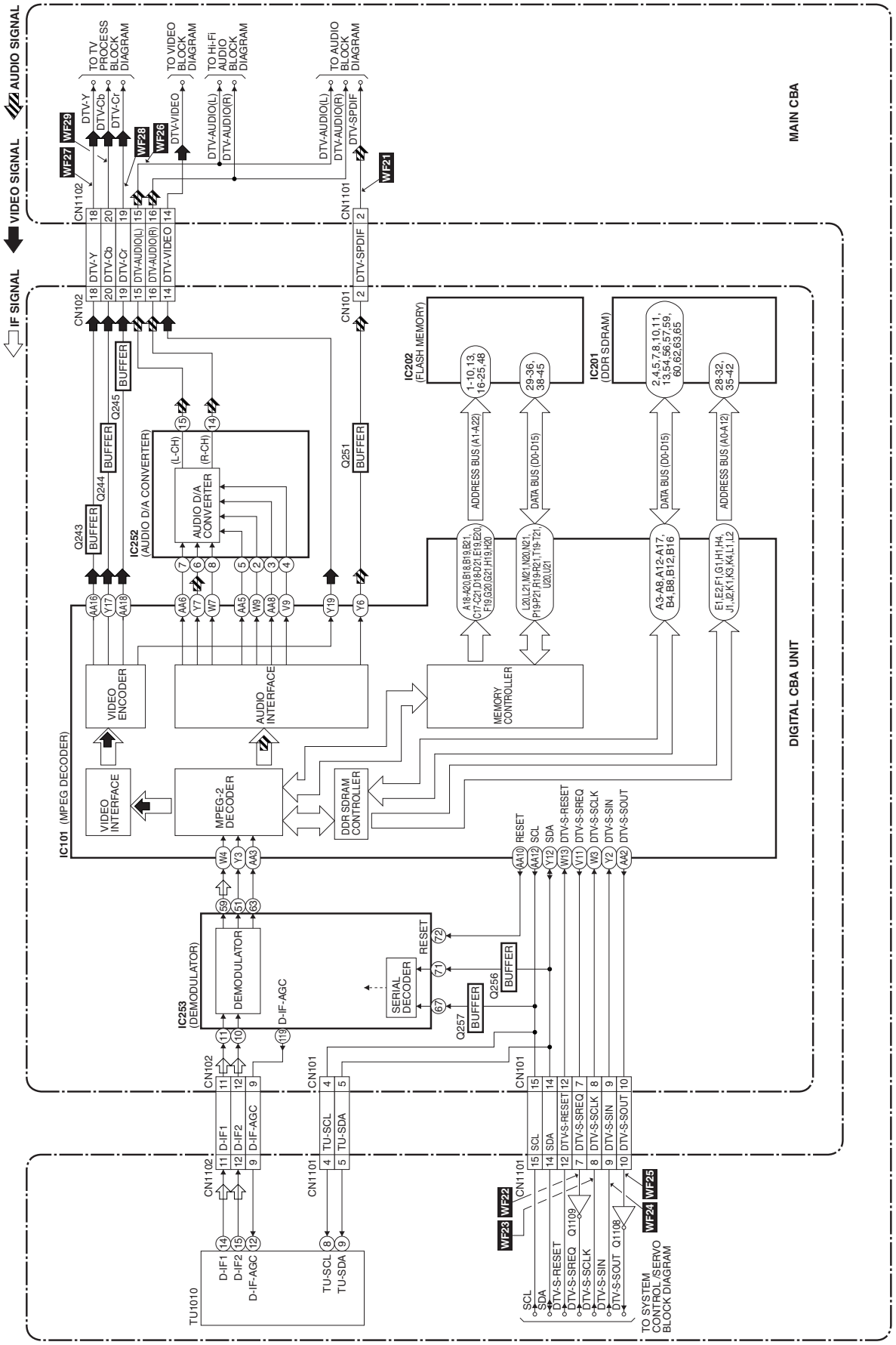
Hi-Fi Audio Block Diagram



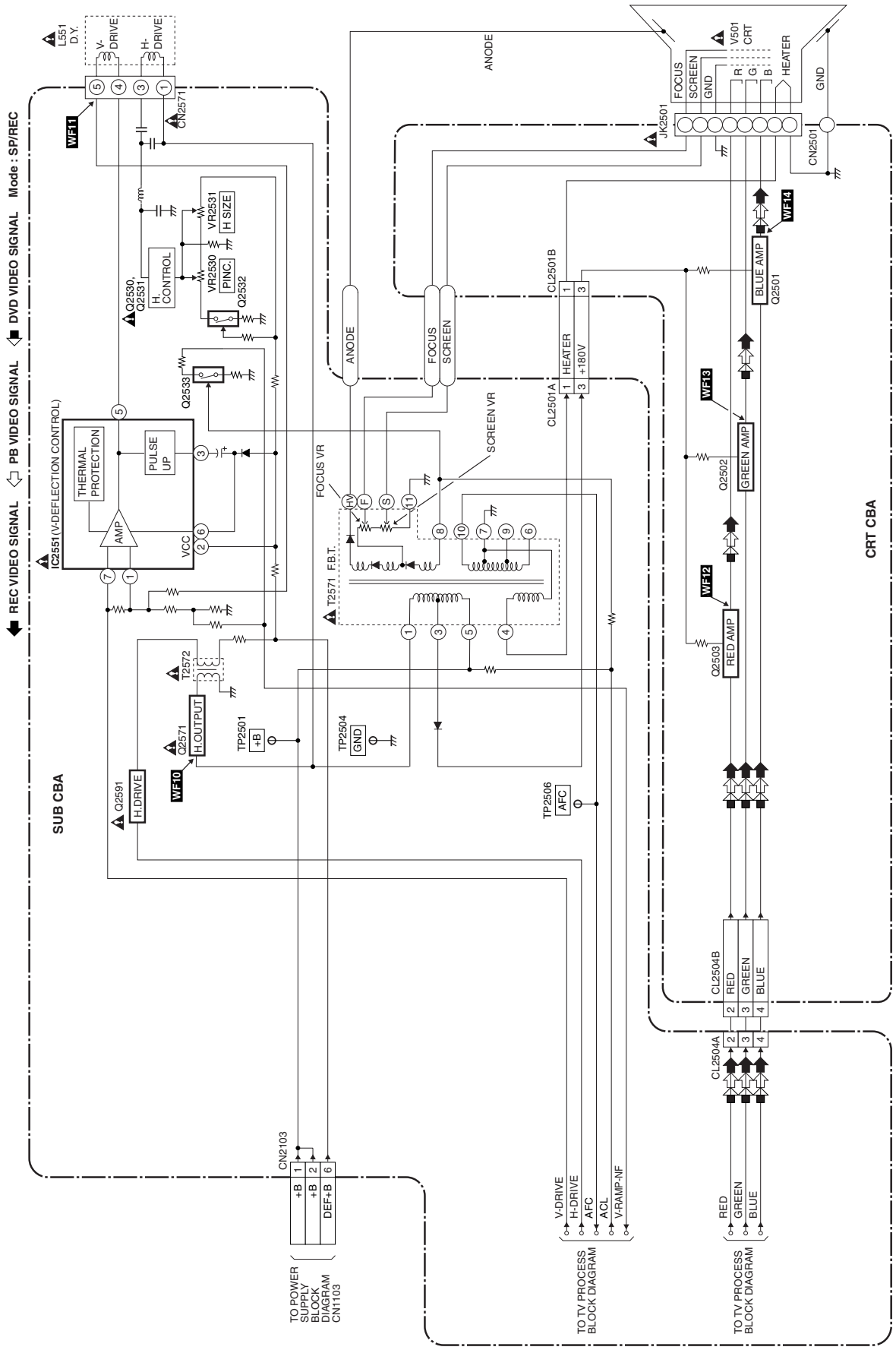
TV Process Block Diagram



Digital Tuner Block Diagram



CRT/H.V. Block Diagram



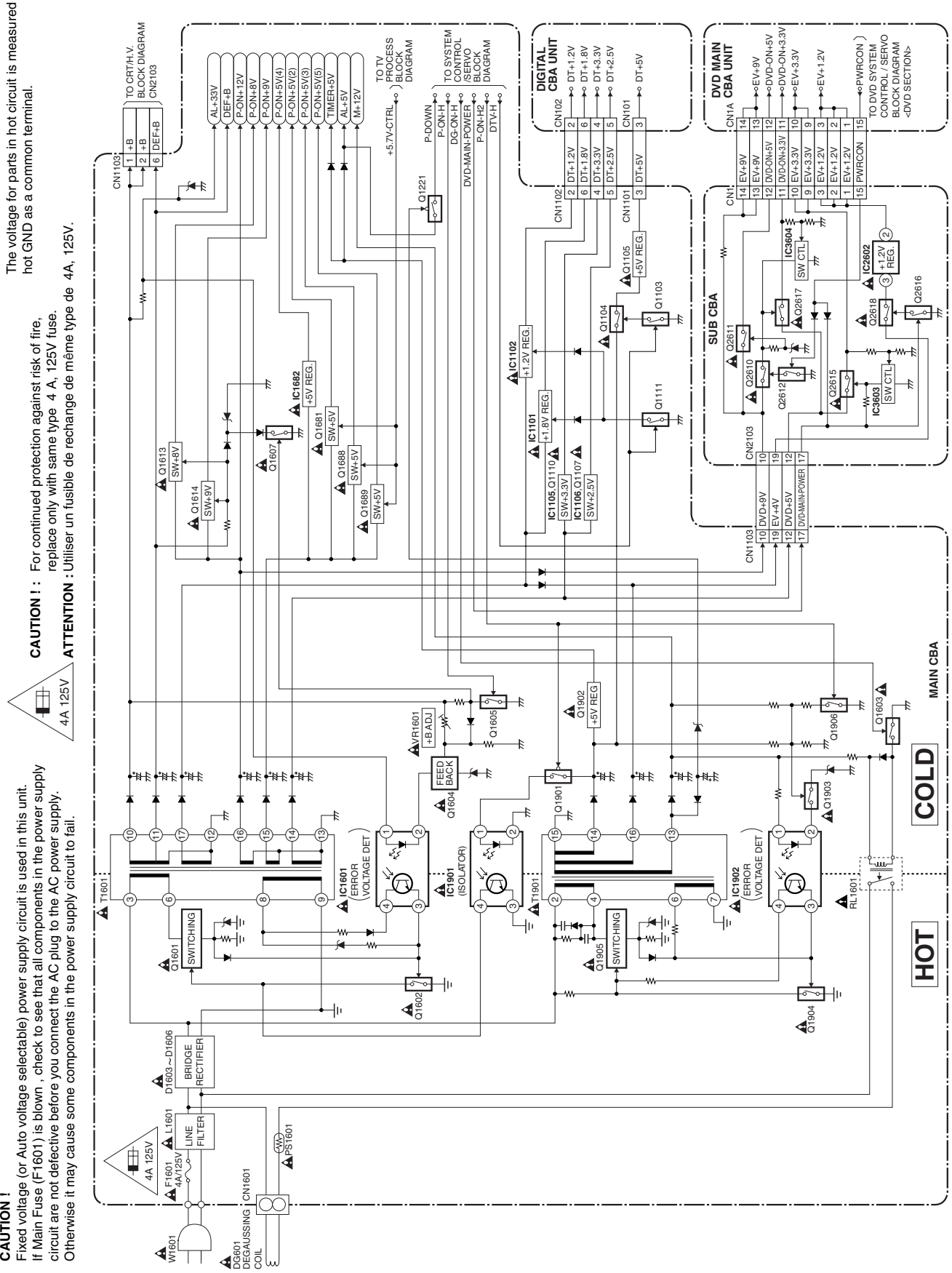
Power Supply Block Diagram

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

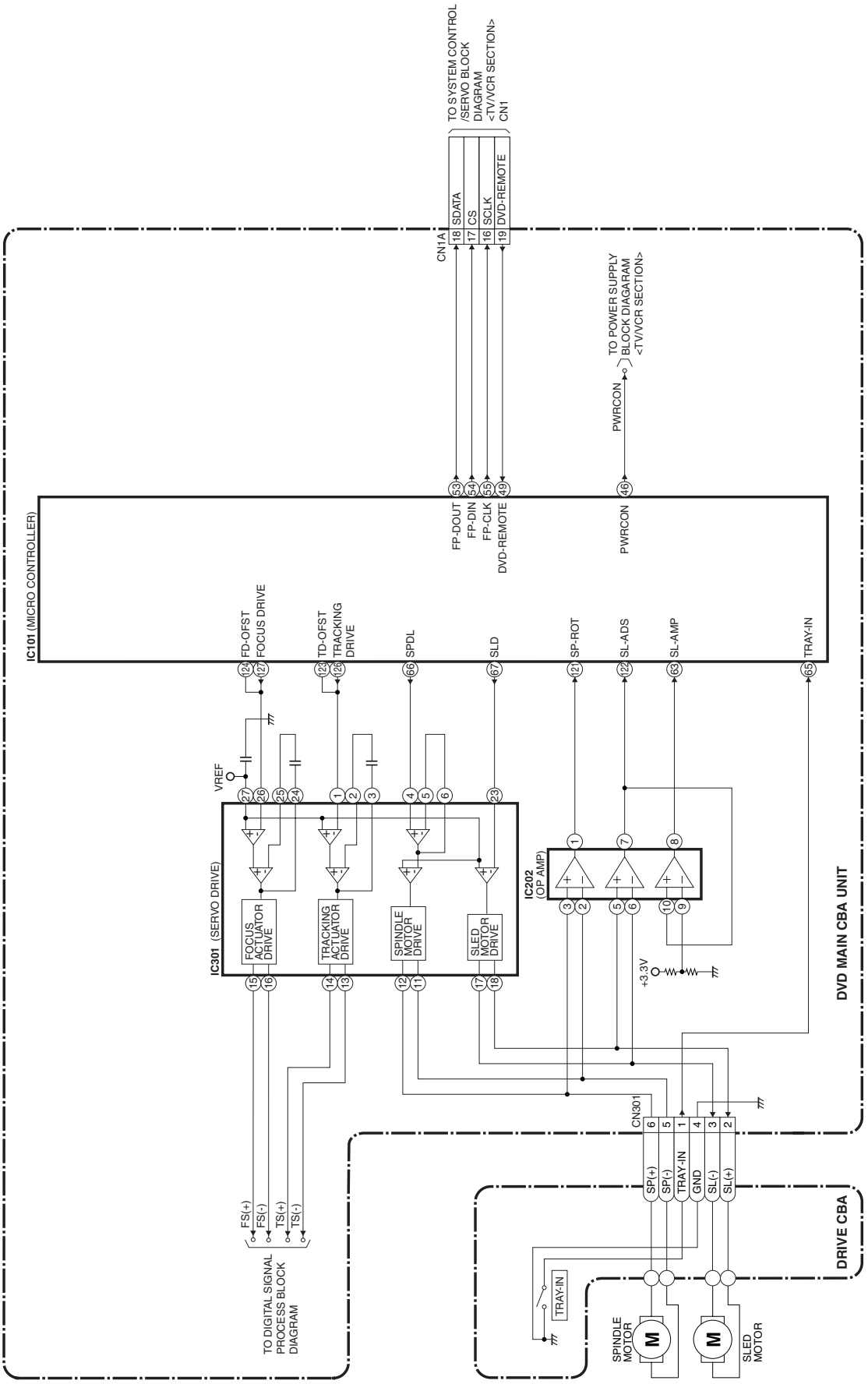
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

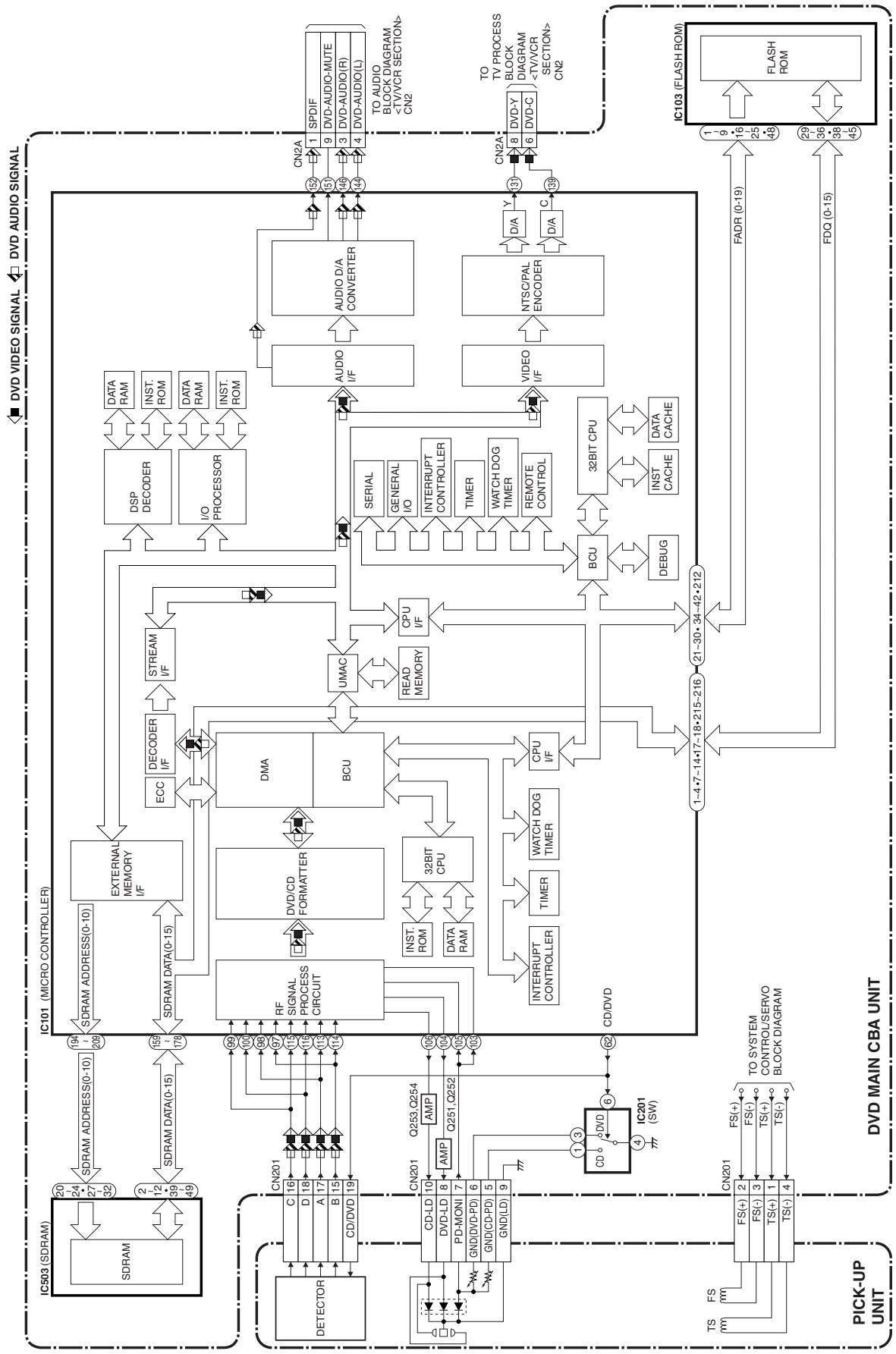


BLOCK DIAGRAMS < DVD Section >

DVD System Control / Servo Block Diagram



Digital Signal Process Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

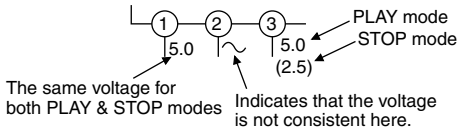
3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

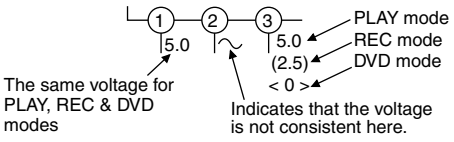
4. Mode: SP/REC

5. Voltage indications for PLAY and REC modes on the schematics are as shown below:

< DVD Section >



< TV/VCR Section >

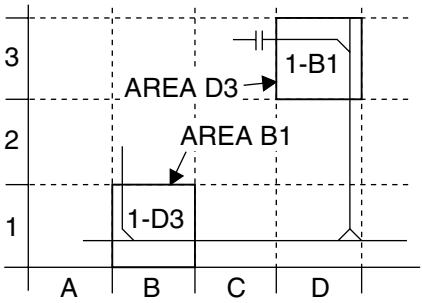


Unit: Volts

6. How to read converged lines

1-D3
- Distinction Area
- Line Number (1 to 3 digits)

Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

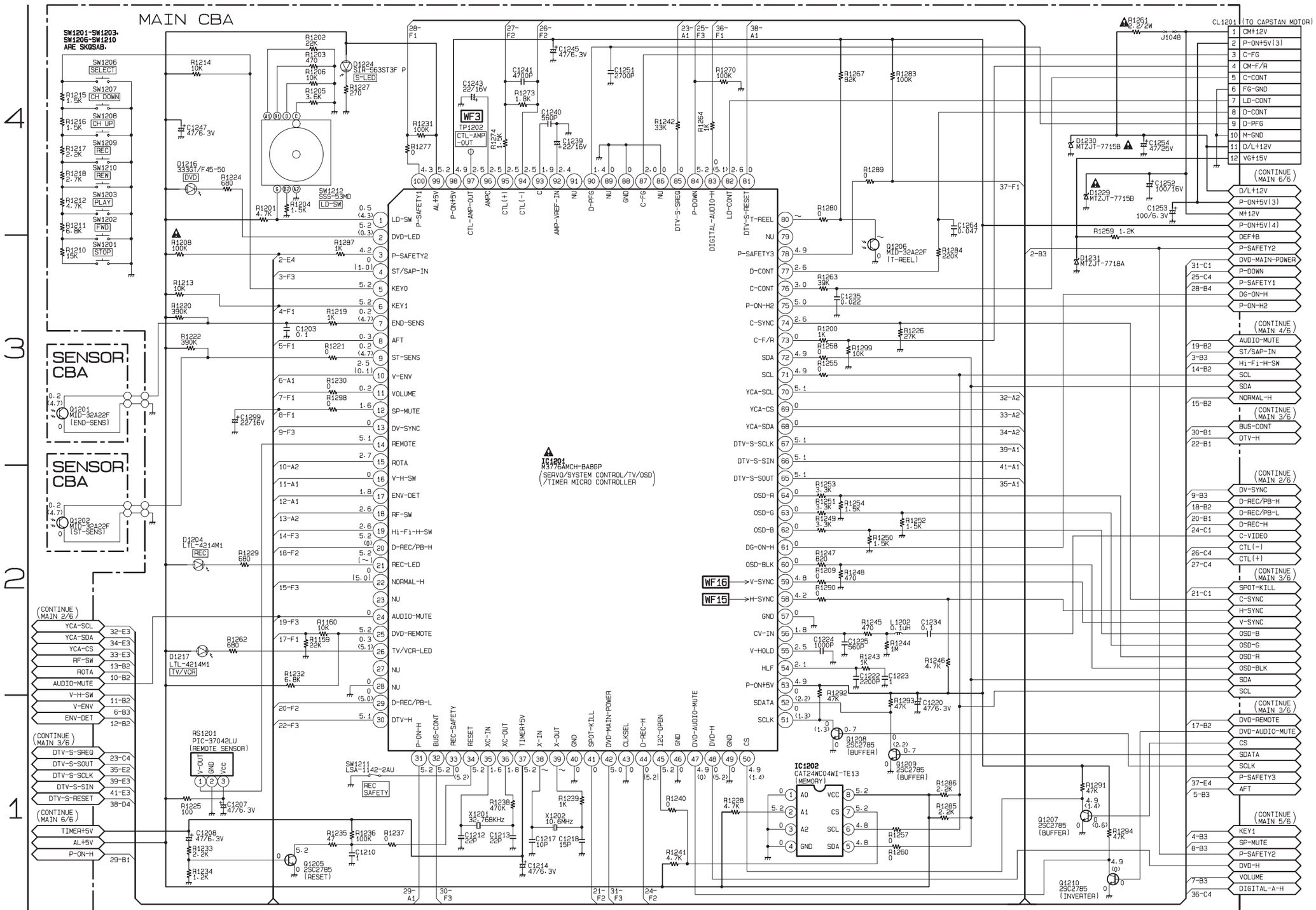
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

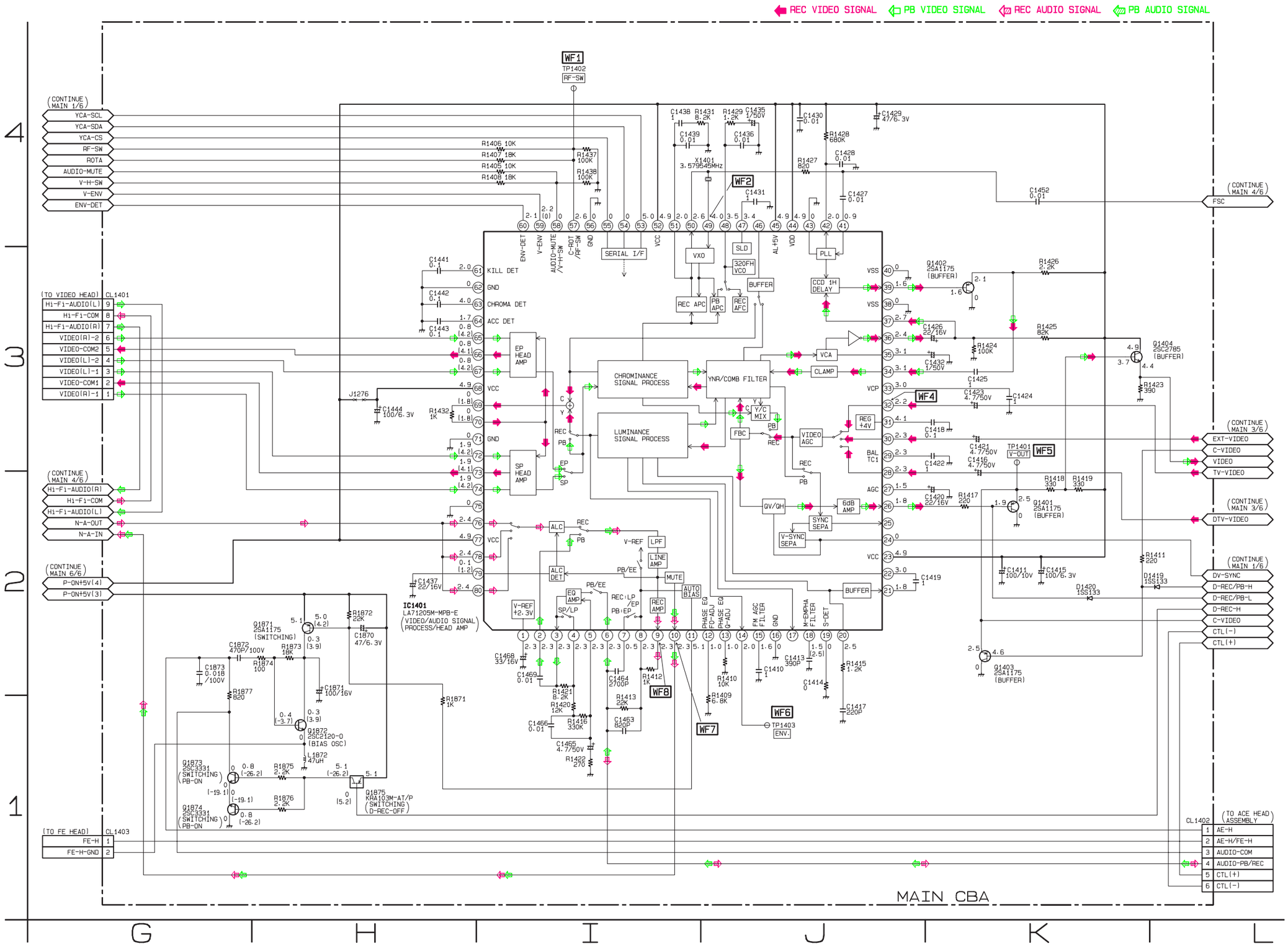
: Used to indicate a test point with a test pin.

Main 1/6 & Sensor Schematic Diagram < TV/VCR Section >

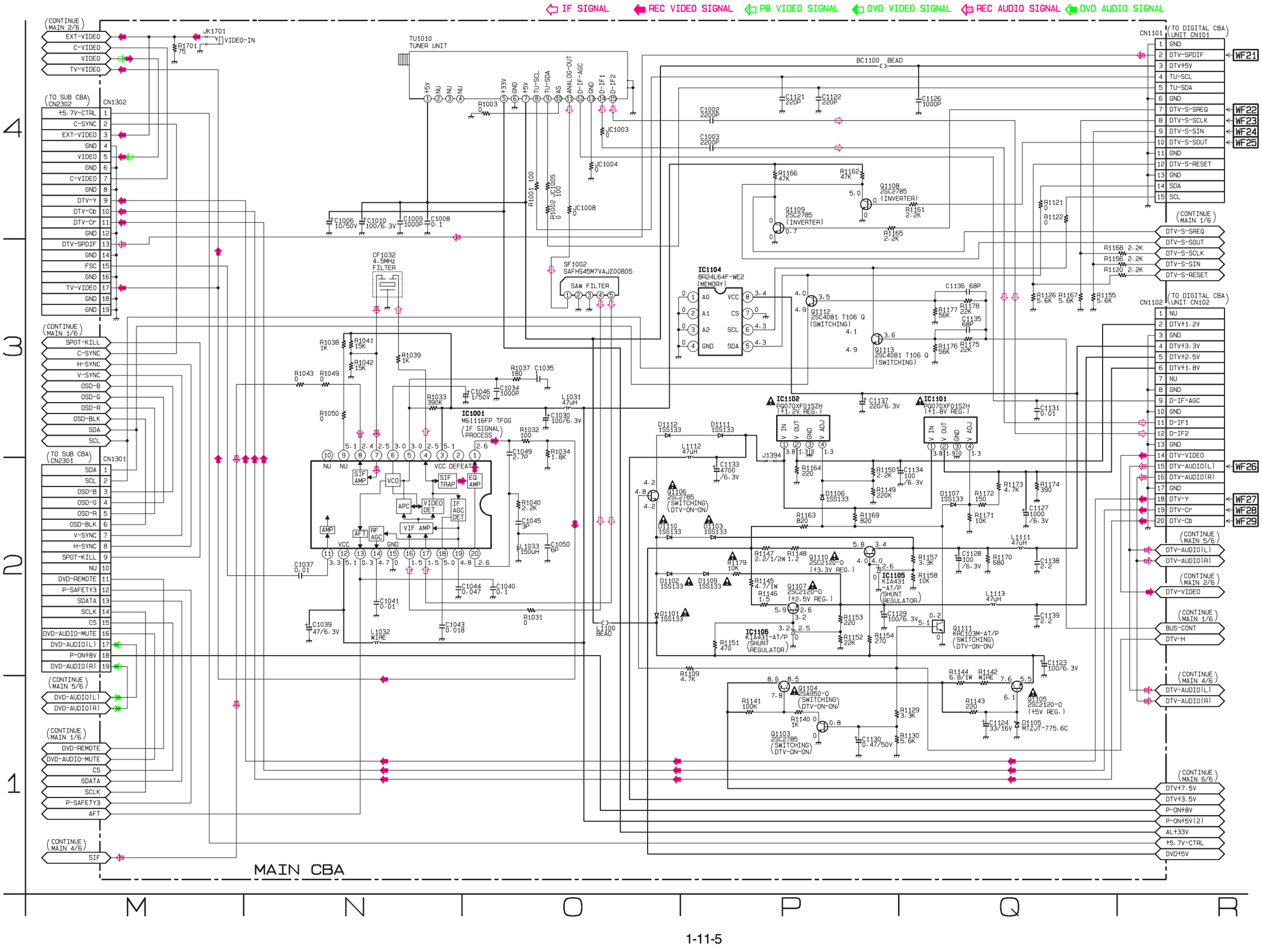


T3251SCM1

Main 2/6 Schematic Diagram < TV/VCR Section >

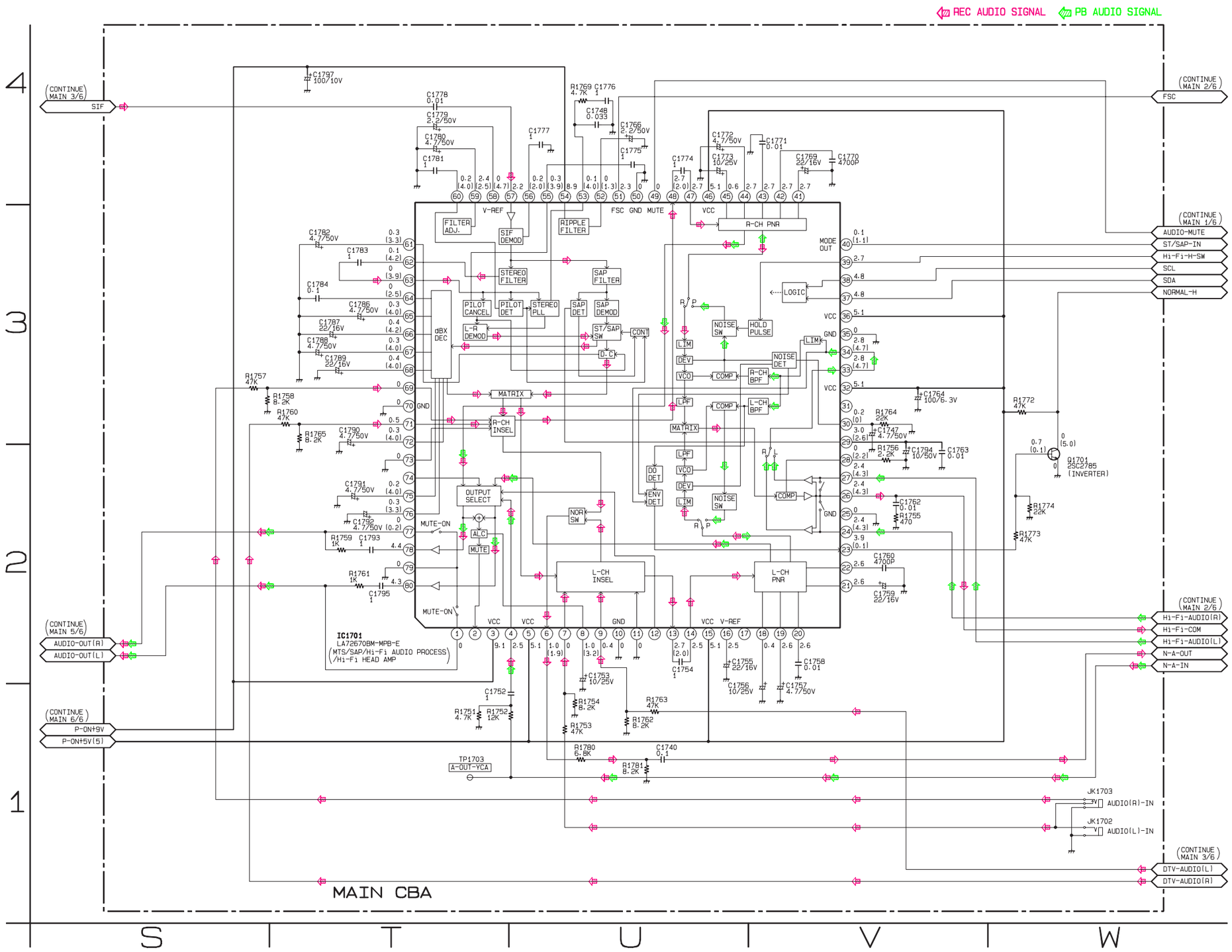


Main 3/6 Schematic Diagram < TV/VCR Section >

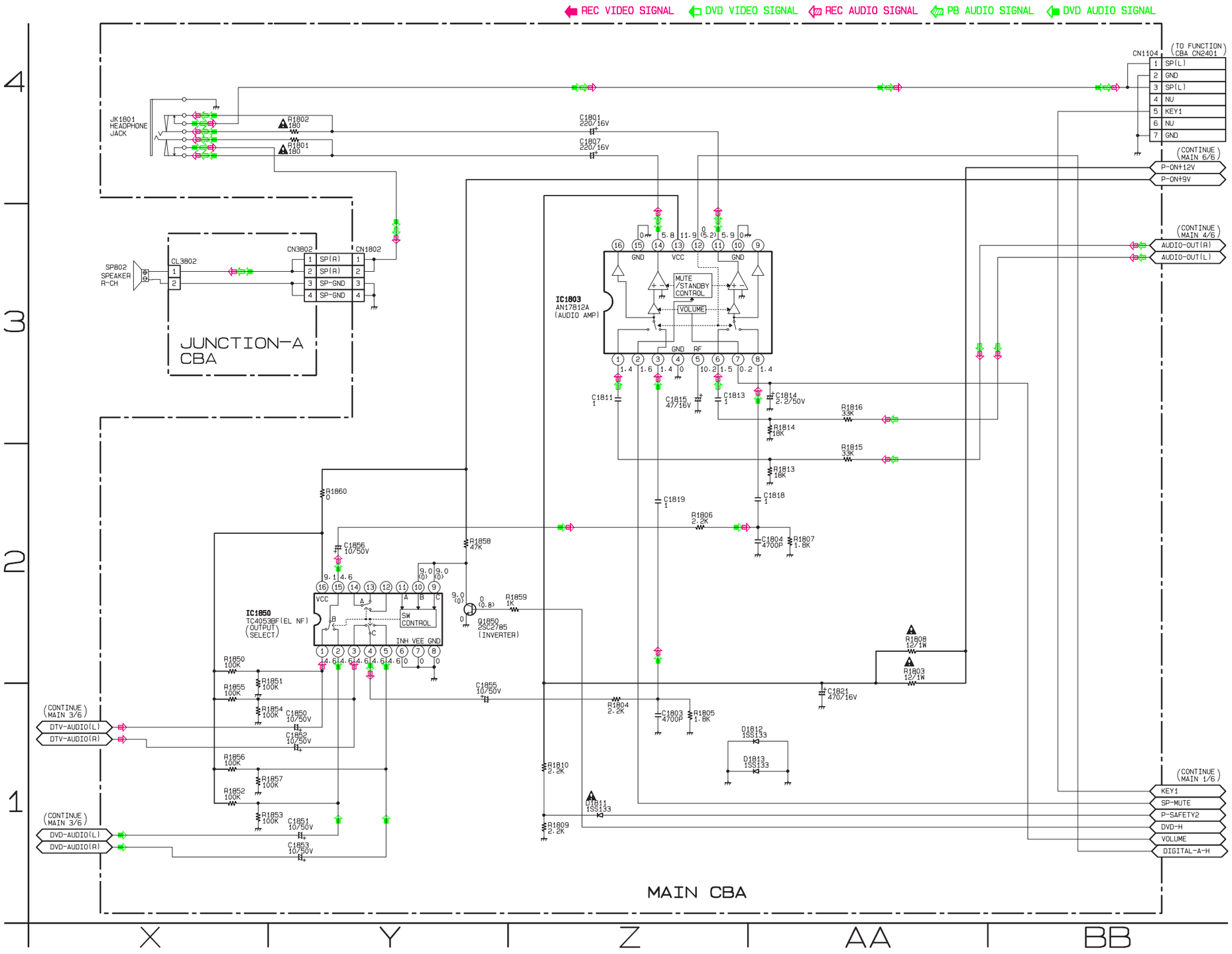


T3251SCM3

Main 4/6 Schematic Diagram < TV/VCR Section >



Main 5/6 & Junction-A Schematic Diagram < TV/VCR Section >



T3251SCM5

Main 6/6 Schematic Diagram < TV/VCR Section >

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

4A 125V

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

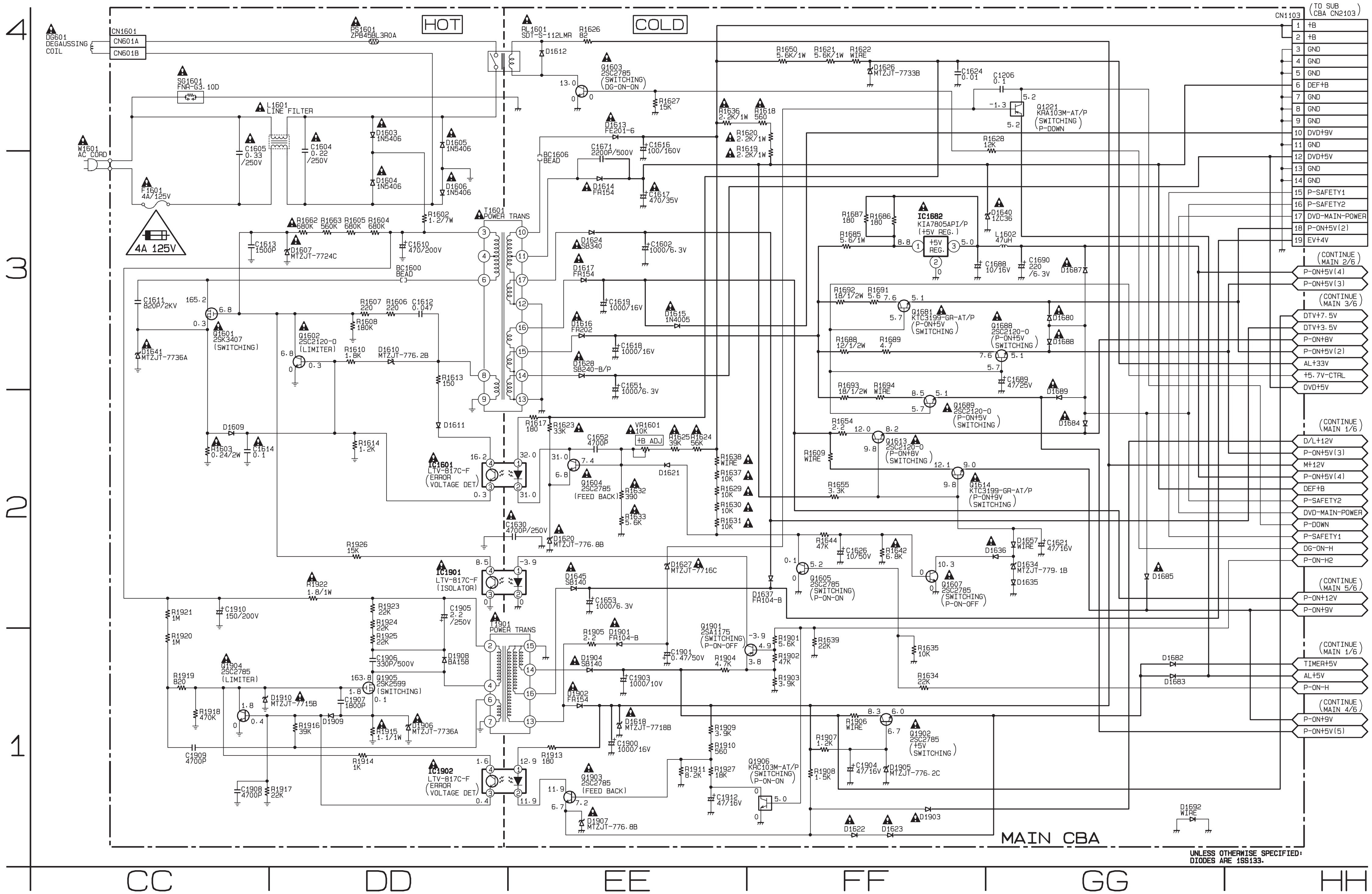
VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC1601	25.7	24.7	0.3	1.2

Ref. No.	1	2	3
IC1682	3.2	0	1.7

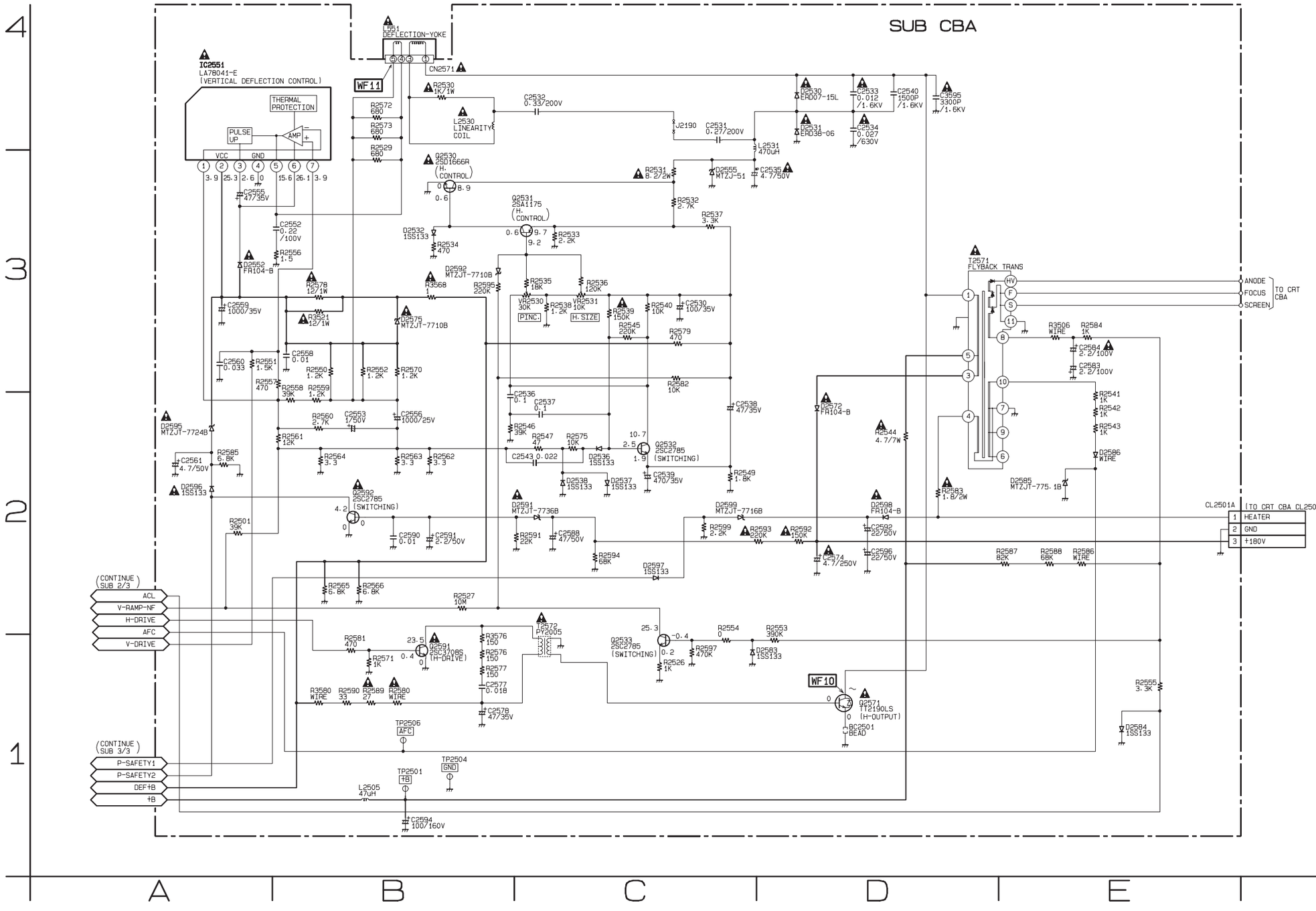
Ref. No.	S	D	G
Q1601	0	162.8	1.9

Ref. No.	E	C	B
Q1221	5.2	5.1	4.6
Q1602	0	1.9	0.3
Q1604	6.7	24.7	7.3
Q1605	0	7.9	0
Q1606	8.5	8.5	7.8
Q1607	0	7.7	6.6
Q1609	5.9	8.2	6.5
Q1613	0.8	4.2	1.4
Q1614	0.9	4.2	1.4
Q1681	0	3.3	0
Q1688	0	3.3	0

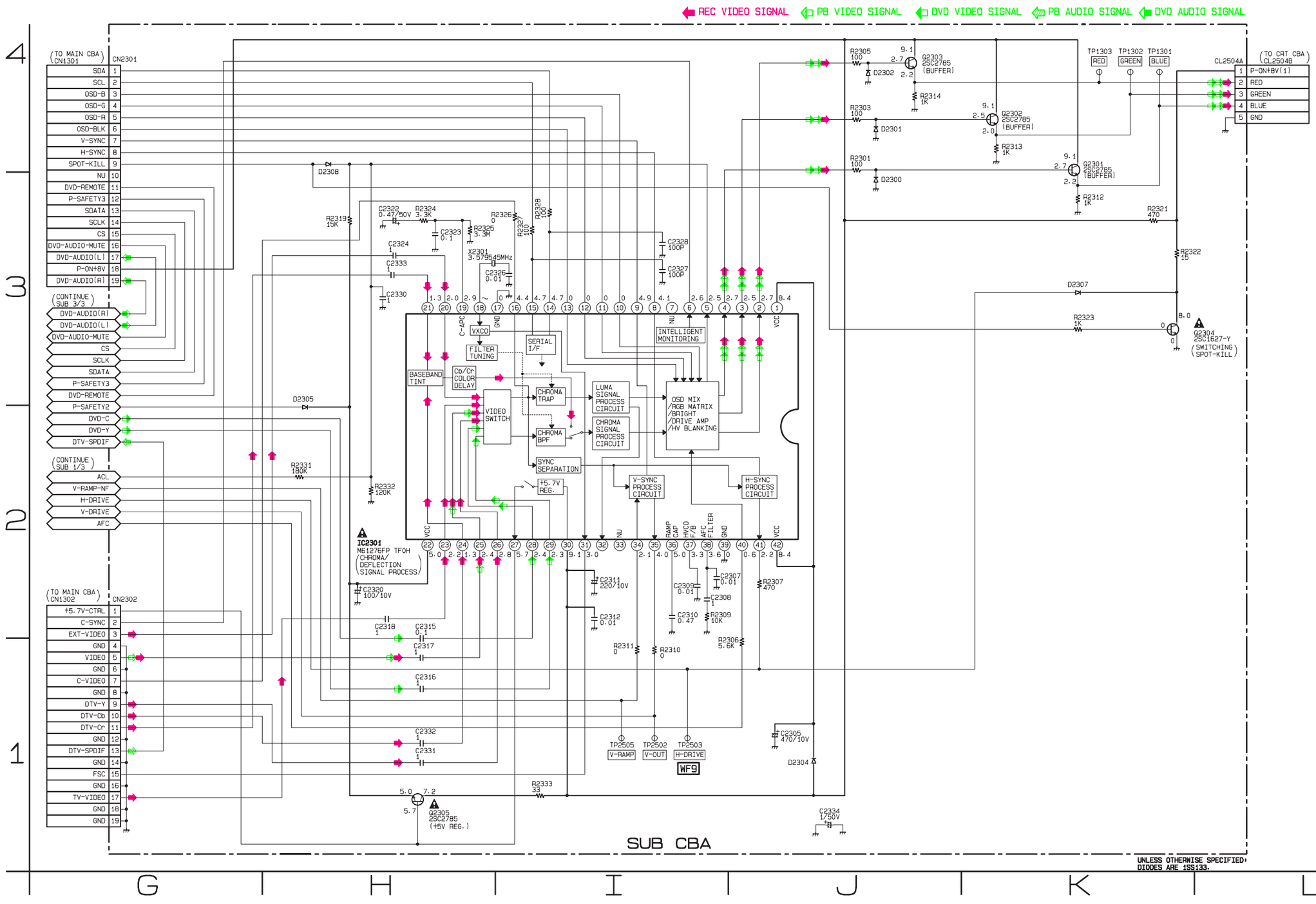


T3251SCM6

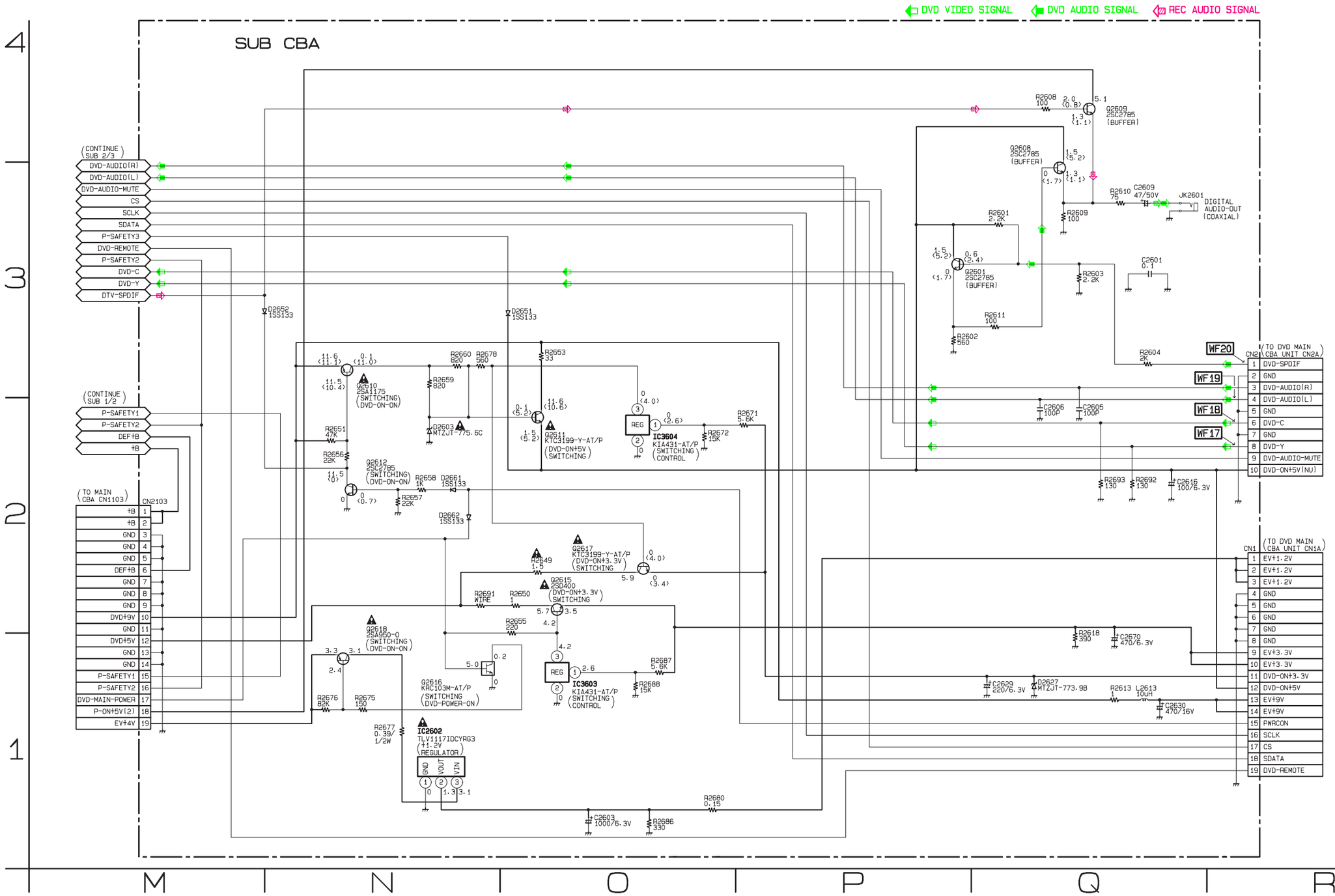
Sub 1/3 Schematic Diagram < TV/VCR Section >



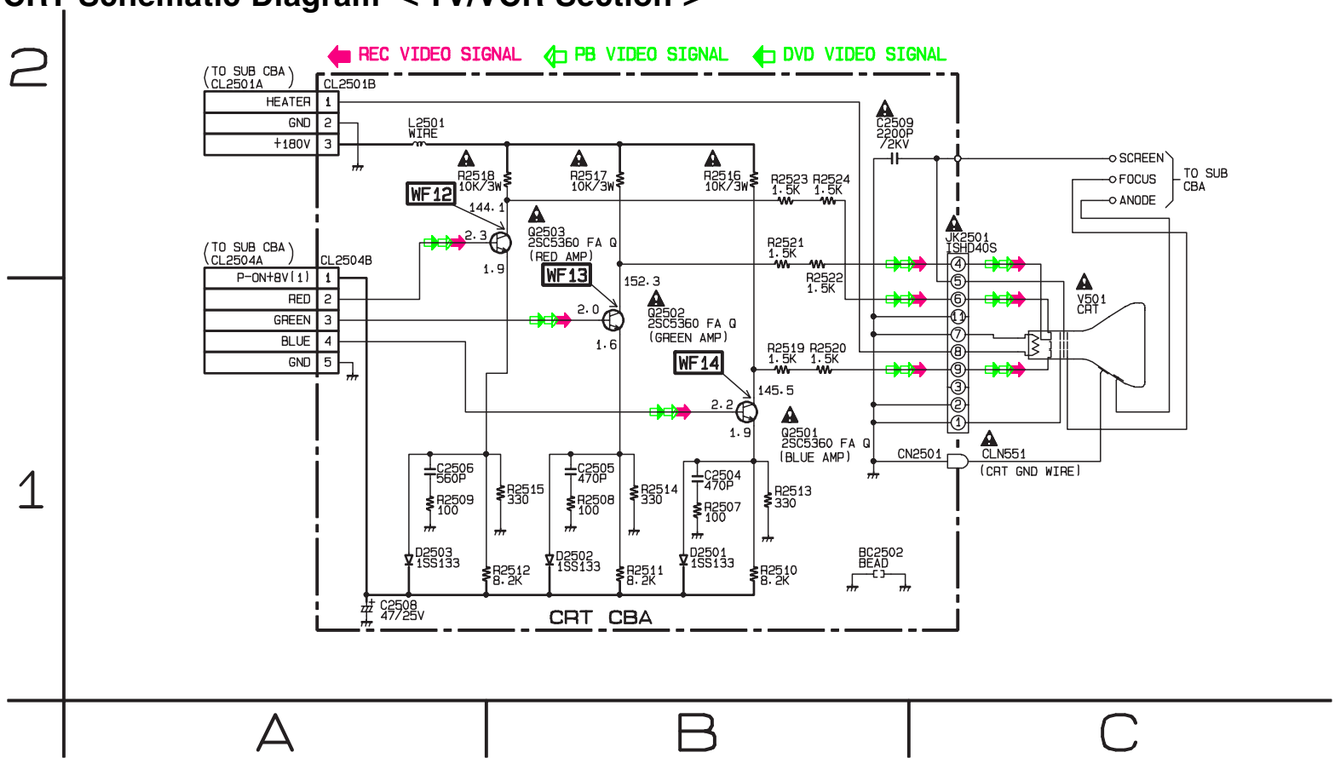
Sub 2/3 Schematic Diagram < TV/VCR Section >



Sub 3/3 Schematic Diagram < TV/VCR Section >

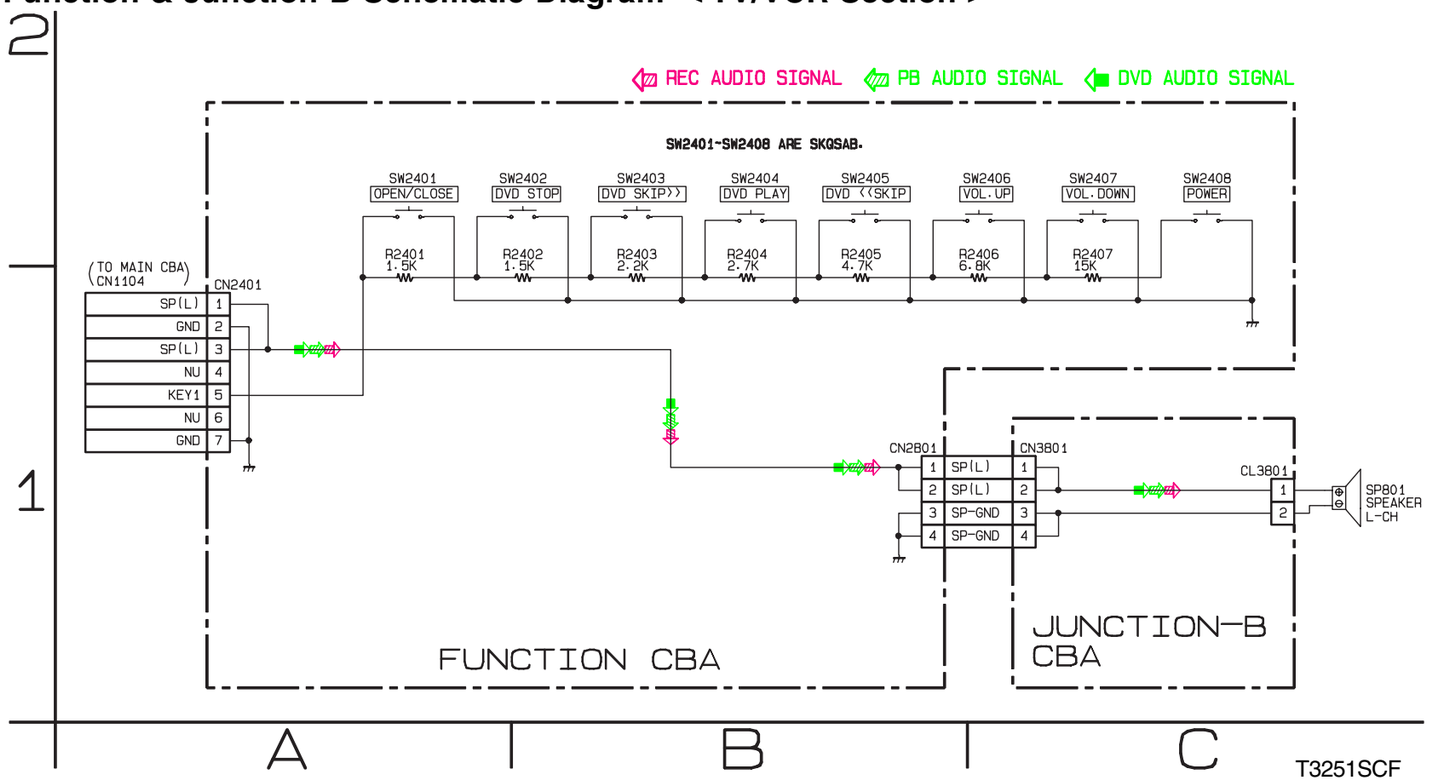


CRT Schematic Diagram < TV/VCR Section >



T3251SCCRT

Function & Junction-B Schematic Diagram < TV/VCR Section >

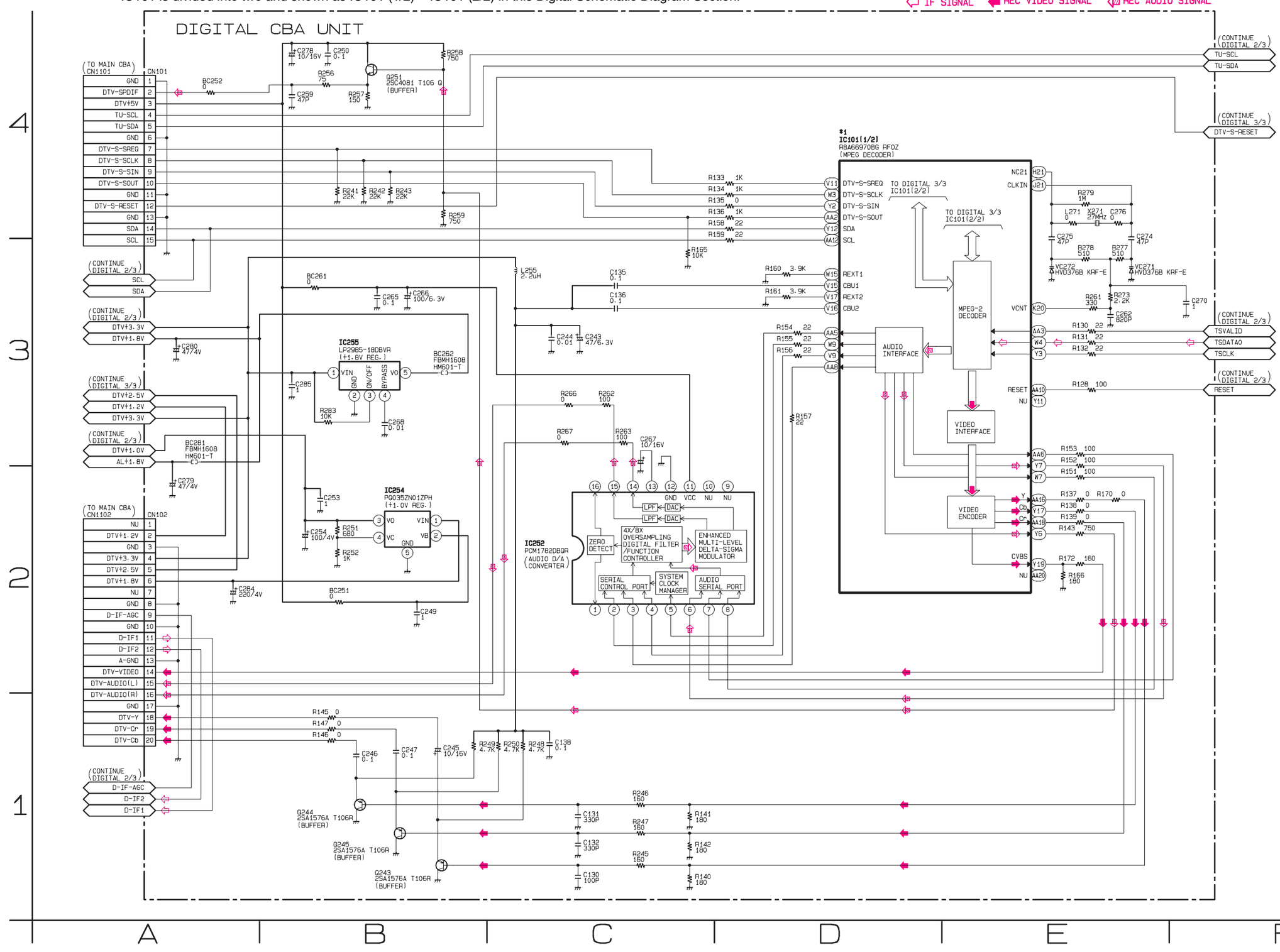


T3251SCF

Digital 1/3 Schematic Diagram < TV/VCR Section >

∗1 NOTE:

The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into two and shown as IC101 (1/2) ~ IC101 (2/2) in this Digital Schematic Diagram Section.



VOLTAGE CHART

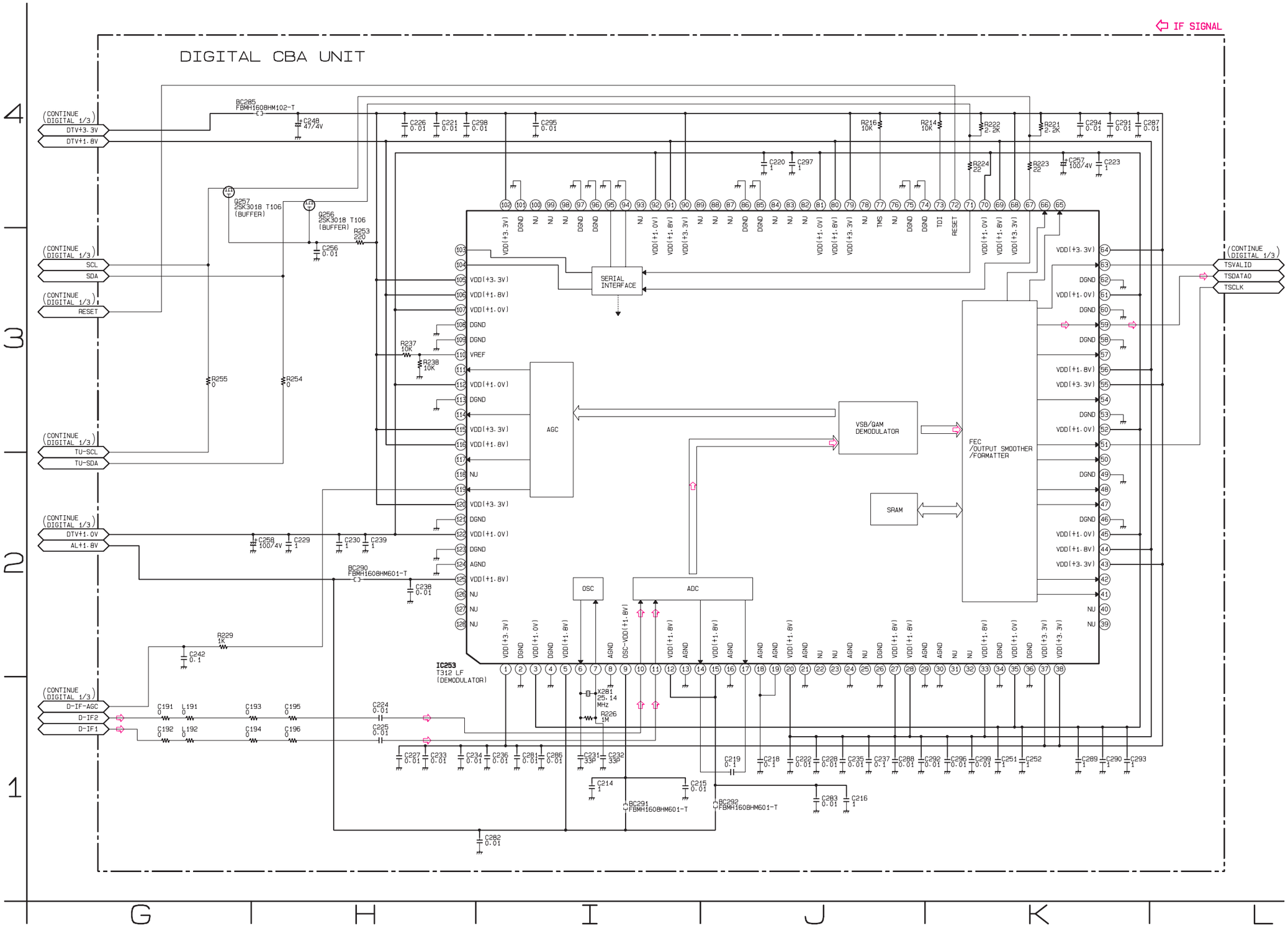
CN101

Pin No.	Voltage
1	0
2	2.0
3	5.4
4	4.1
5	4.1
6	0
7	1.1
8	0
9	0
10	0
11	0
12	0
13	0
14	4.0
15	4.0

CN102

Pin No.	Voltage
1	---
2	1.3
3	0
4	3.4
5	2.6
6	1.9
7	---
8	0
9	0.2
10	0
11	0
12	0
13	0
14	0
15	2.4
16	3.0
17	0
18	0.7
19	0.2
20	0.6

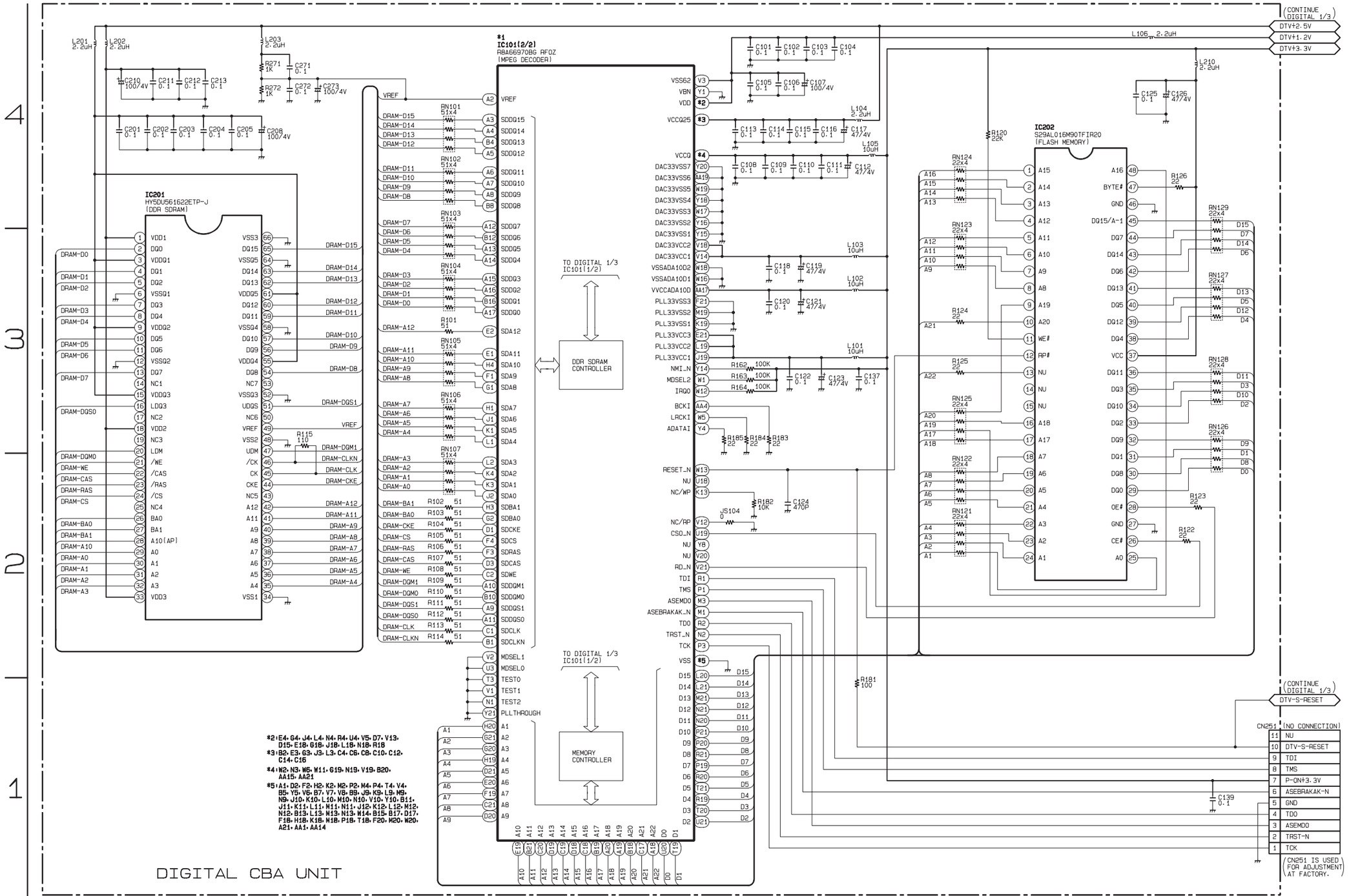
Digital 2/3 Schematic Diagram < TV/VCR Section >



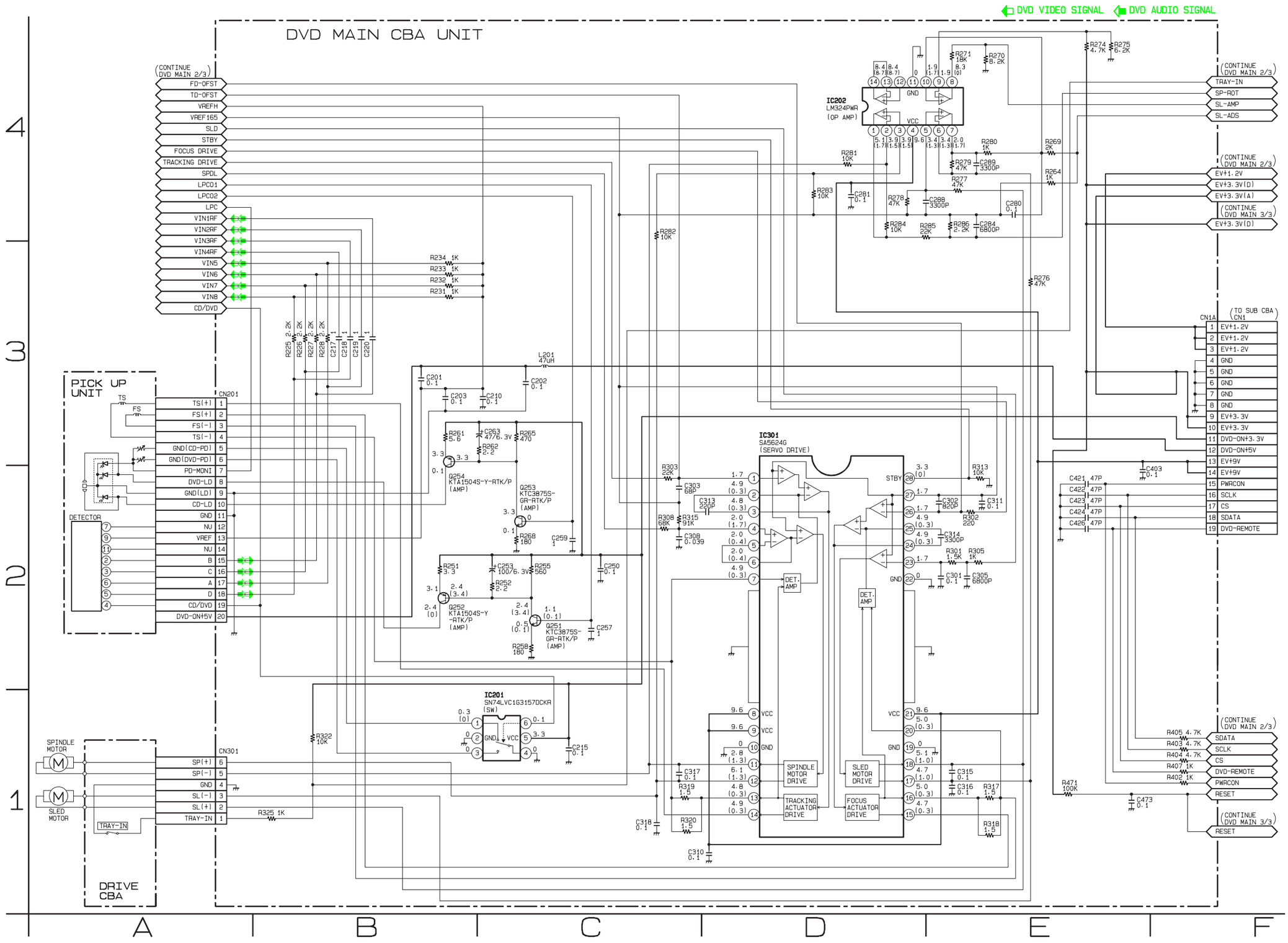
Digital 3/3 Schematic Diagram < TV/VCR Section >

∗1 NOTE:

The order of pins shown in this diagram is different from that of actual IC101.
IC101 is divided into two and shown as IC101 (1/2) ~ IC101 (2/2) in this Digital Schematic Diagram Section.



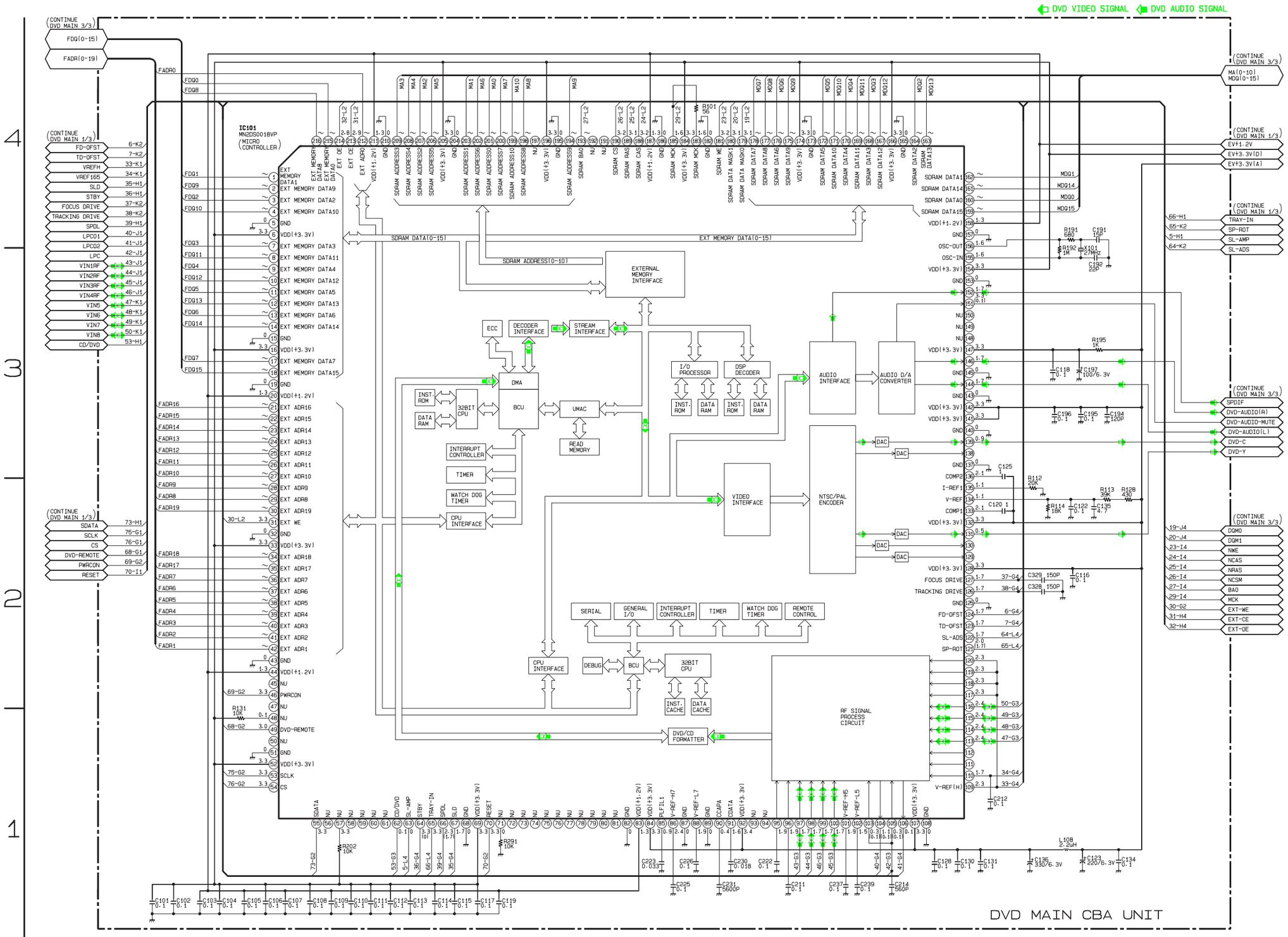
DVD Main 1/3 Schematic Diagram < DVD Section >



1-11-16

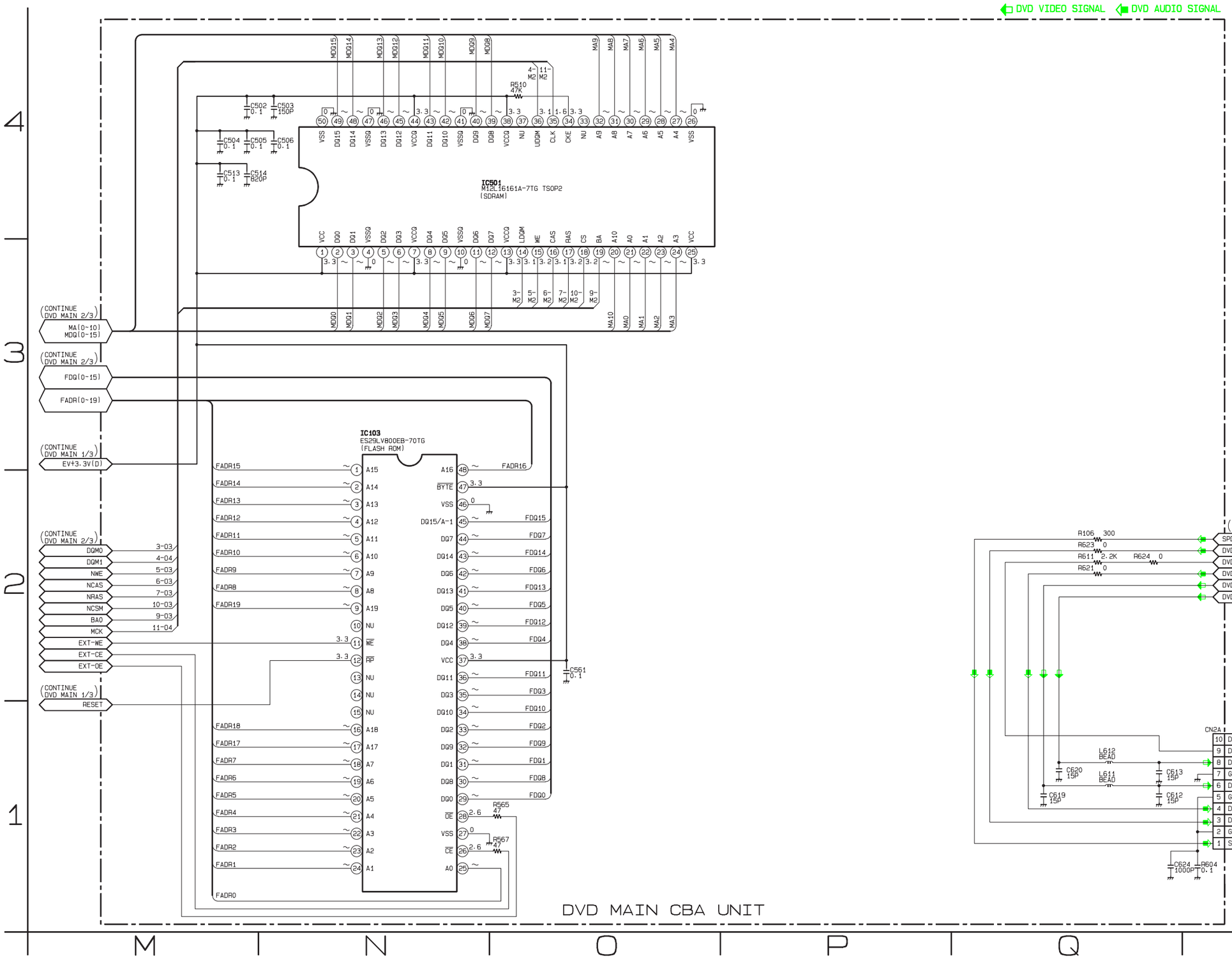
T3251SCDT1

DVD Main 2/3 Schematic Diagram < DVD Section >



T3251SCDT2

DVD Main 3/3 Schematic Diagram < DVD Section >



Main CBA Top View < TV/VCR Section >

4A 125V

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

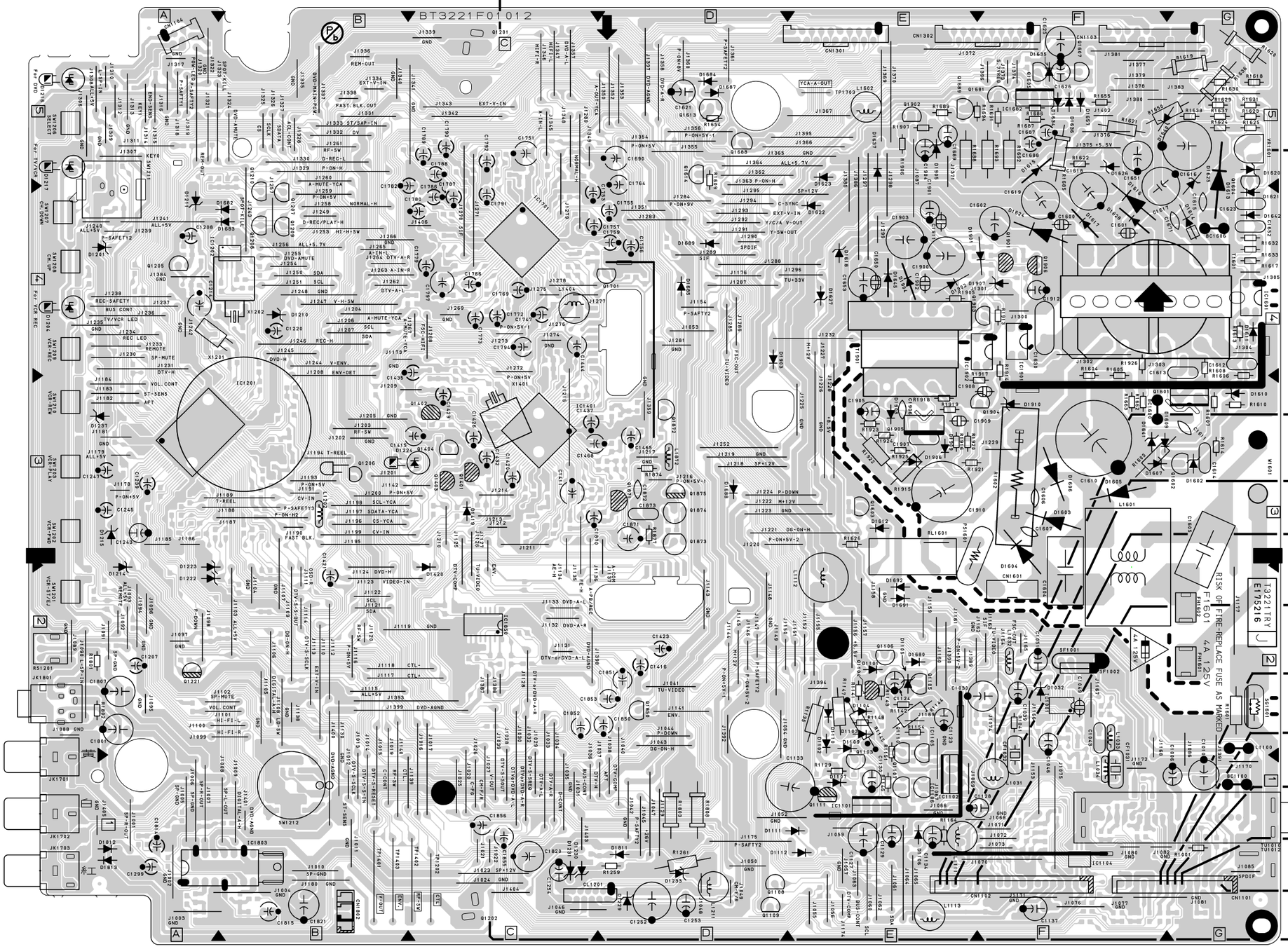
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

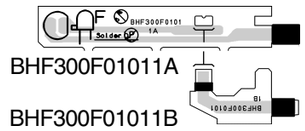
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.

TO SENSOR CBA
(END-SENSOR)



Sensor CBA Top View



BT3221F01012

Main CBA Bottom View < TV/VCR Section >

4A 125V

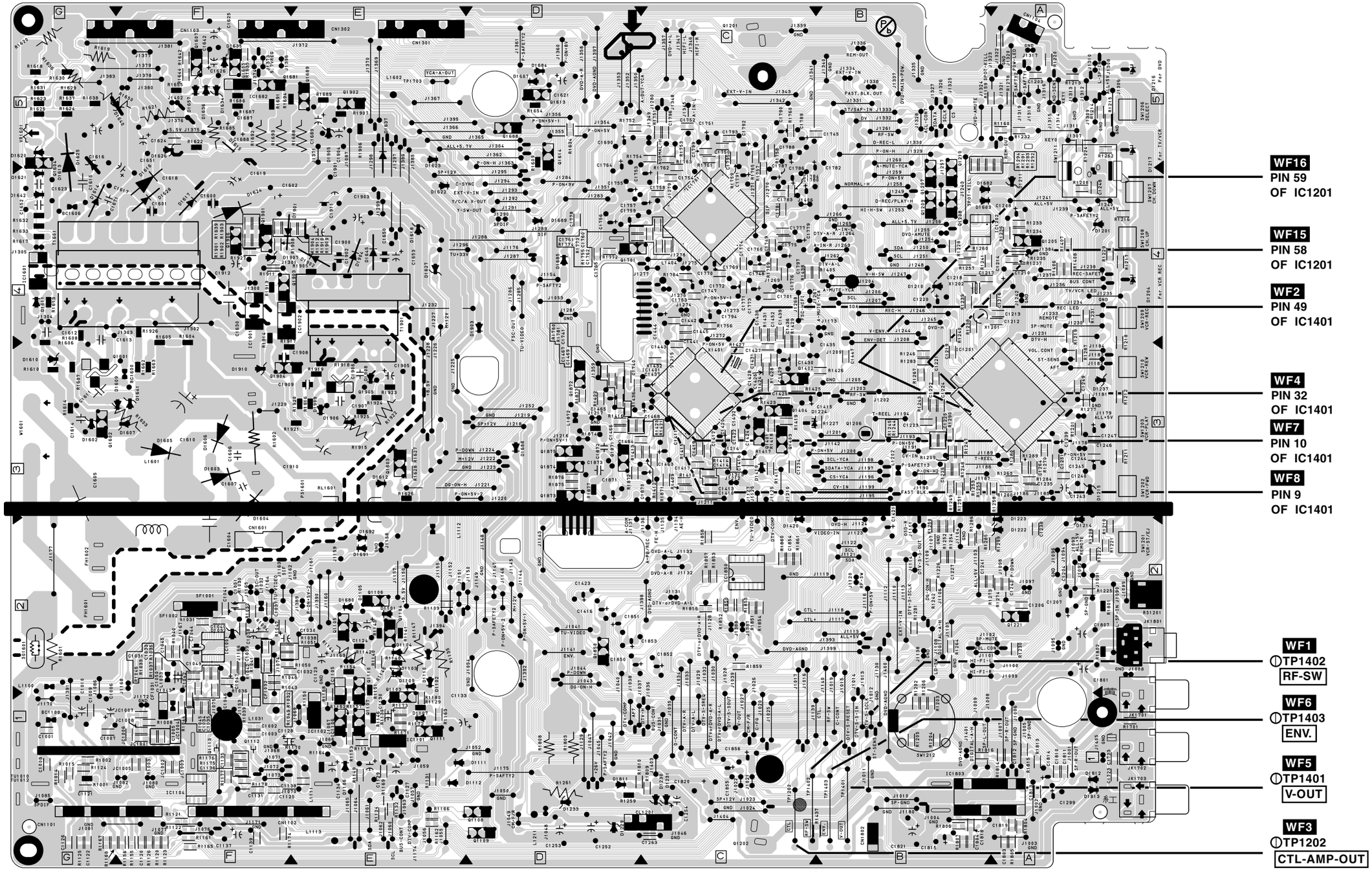
CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

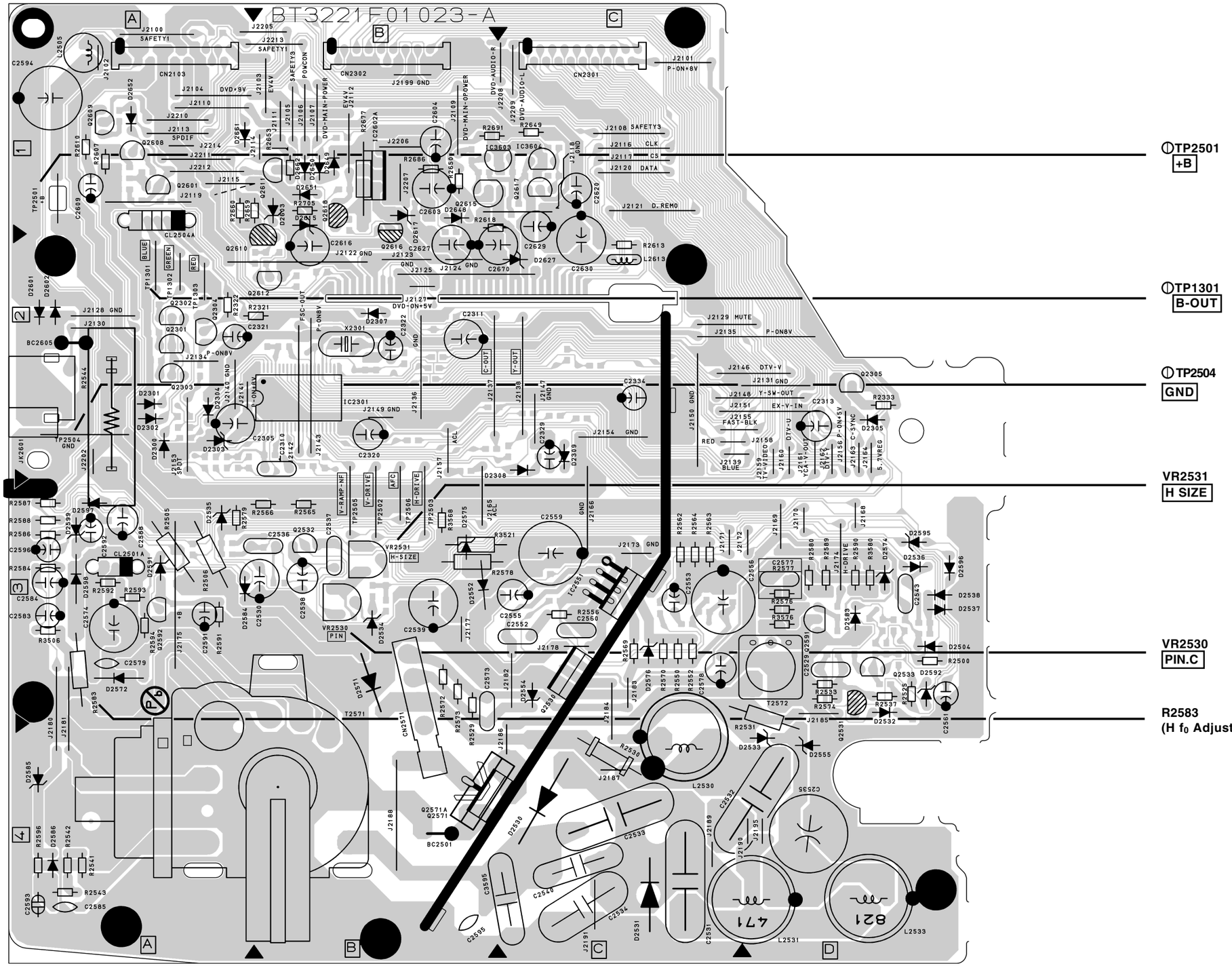
CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.

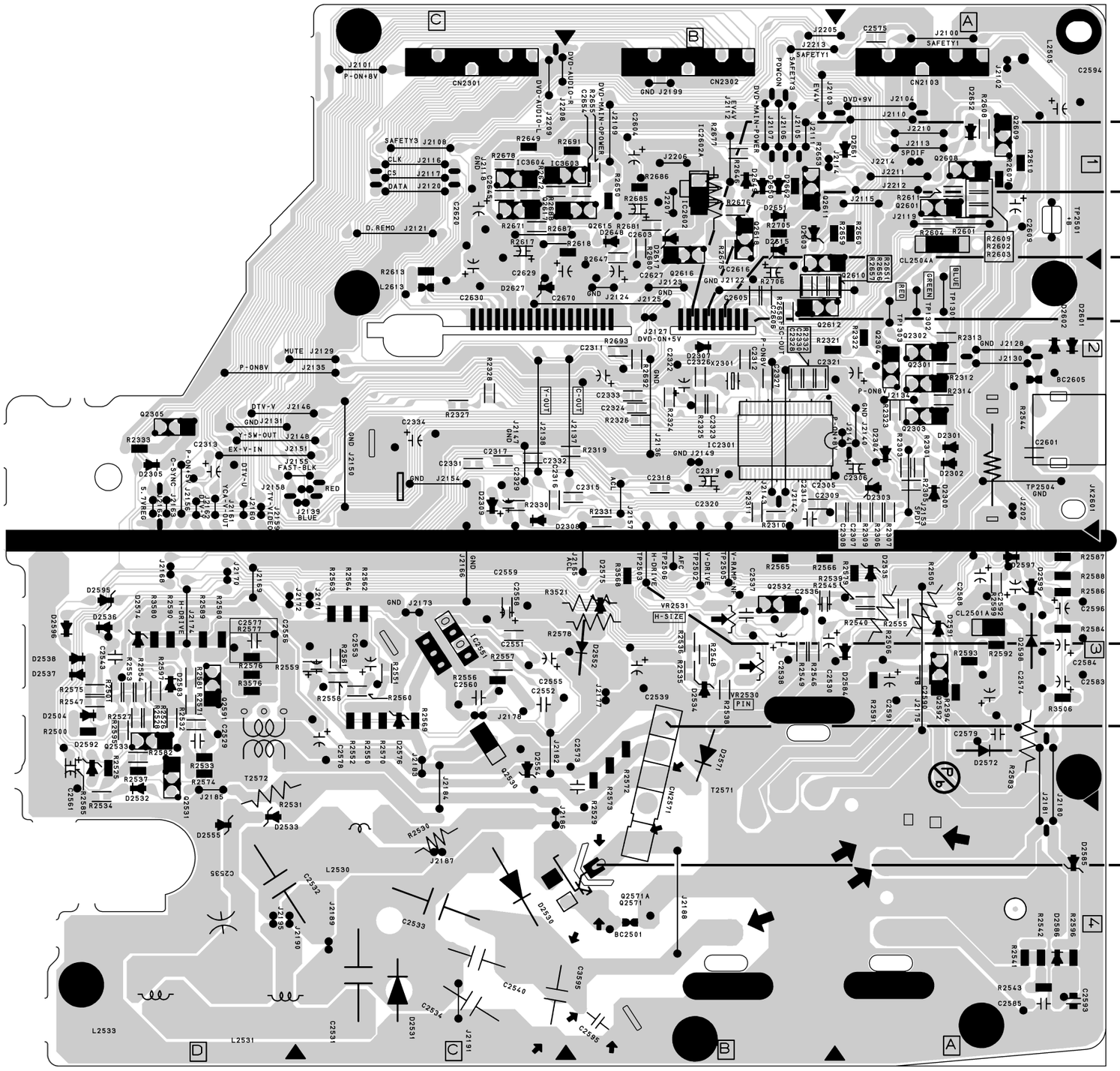


BT3221F01012

Sub CBA Top View < TV/VCR Section >

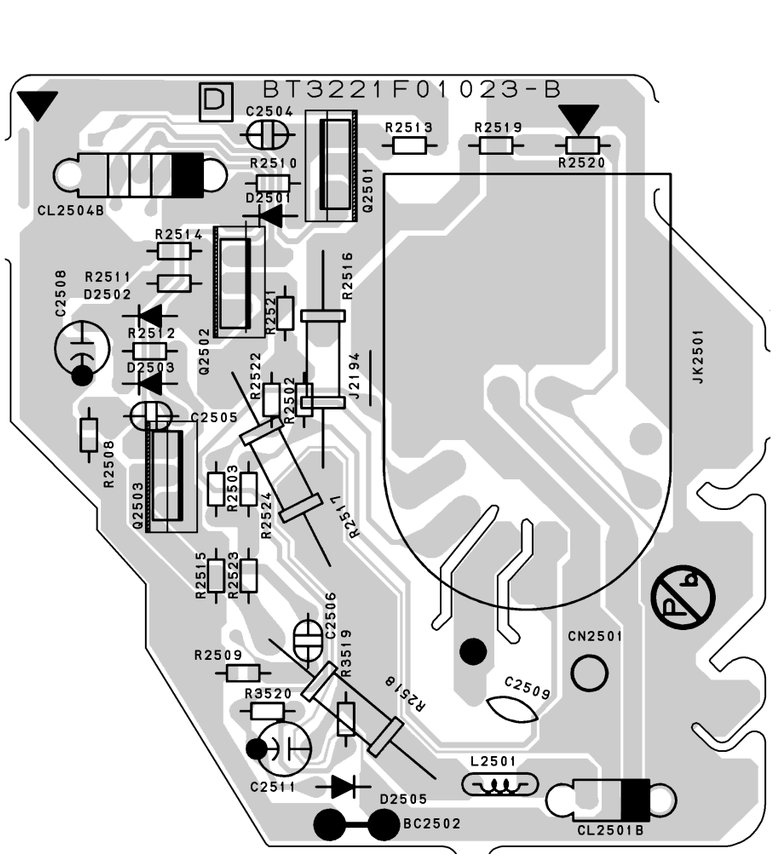


Sub CBA Bottom View < TV/VCR Section >

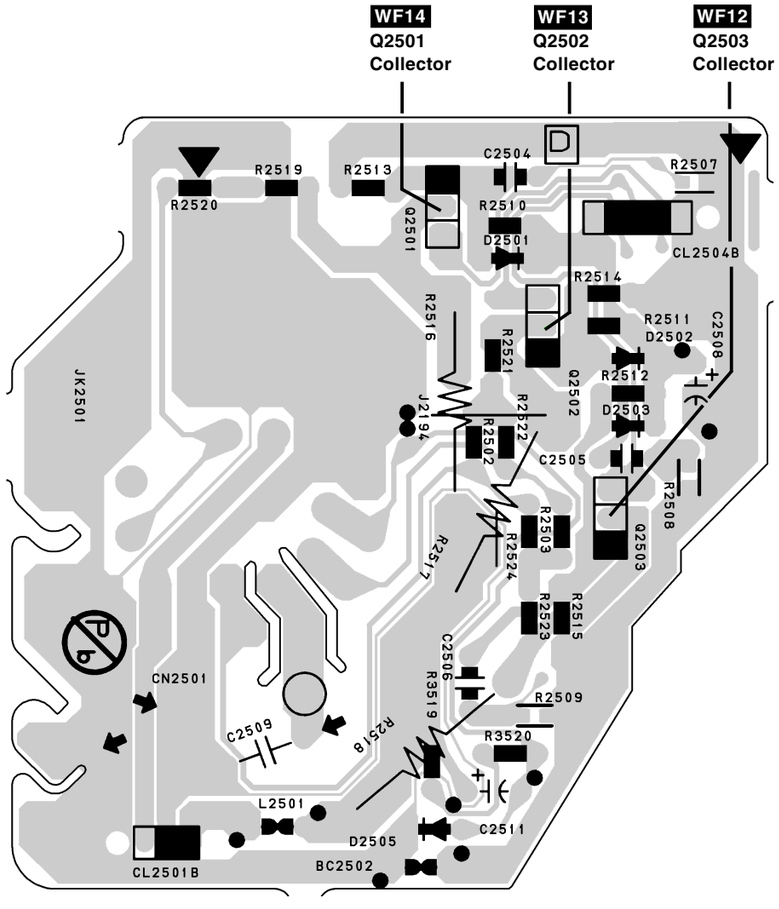


BT3221F01023-A

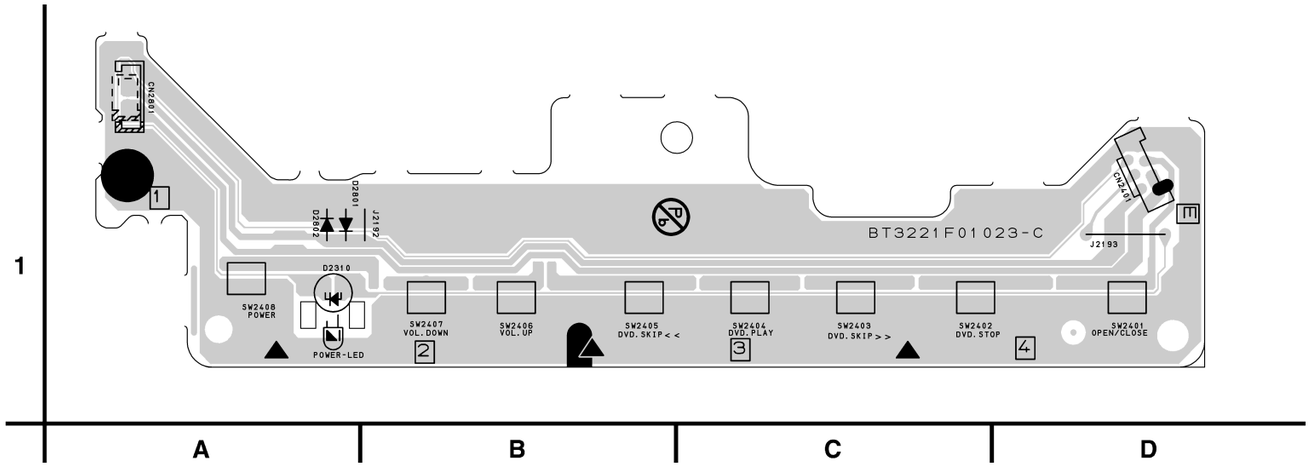
CRT CBA Top View < TV/VCR Section >



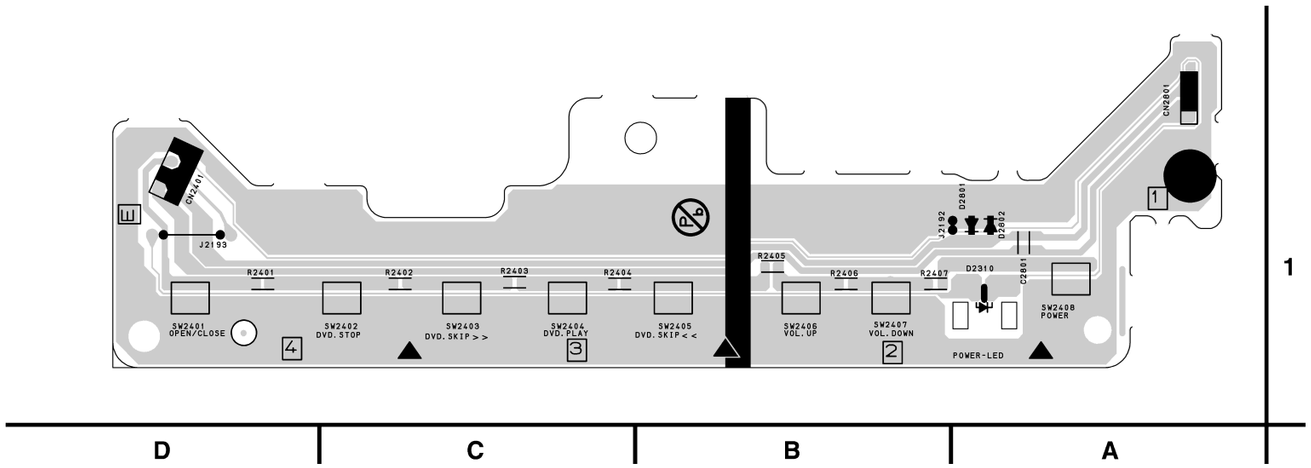
CRT CBA Bottom View < TV/VCR Section >



Function CBA Top View < TV/VCR Section >

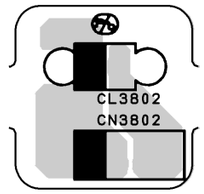


Function CBA Bottom View < TV/VCR Section >

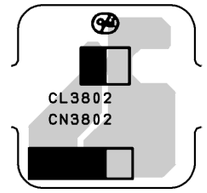


BT3221F01023-C

Junction-A CBA Top View < TV/VCR Section >

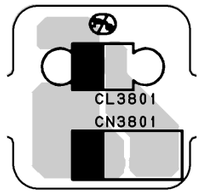


Junction-A CBA Bottom View < TV/VCR Section >

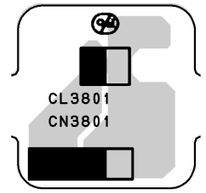


BT3221F01023-D

Junction-B CBA Top View < TV/VCR Section >



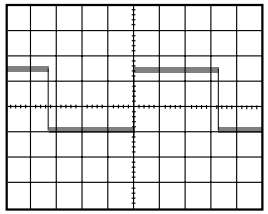
Junction-B CBA Bottom View < TV/VCR Section >



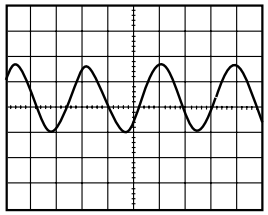
BT3221F01023-E

WAVEFORMS

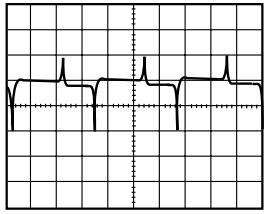
Input: Color Bar Signal (with 1kHz Audio Signal)
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



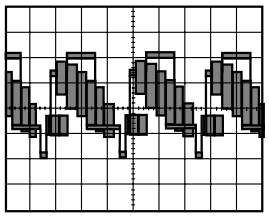
WF1 1DIV: 2V 5ms
TP1402 RF-SW



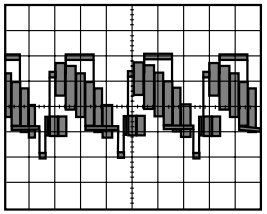
WF2 1DIV: 0.2V 0.1µs
IC1401 Pin 49



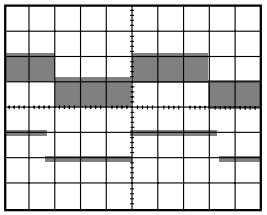
WF3 1DIV: 1V 10ms
TP1202 CTL-AMP-OUT



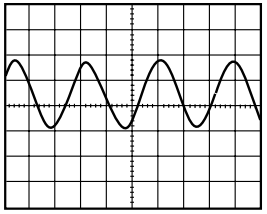
WF4 1DIV: 0.25V 20µs
IC1401 Pin 32



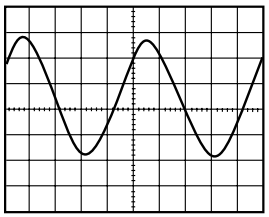
WF5 1DIV: 0.5V 20µs
TP1401 V-OUT



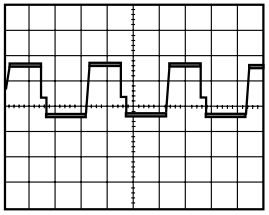
Upper: **WF6** Lower: **WF1**
1DIV: 0.2V 2DIV: 5V 5ms
TP1403 ENV. TP1402 RF-SW



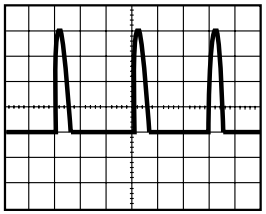
WF7 1DIV: 0.5V 0.5ms
IC1401 PIN10



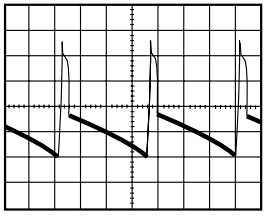
WF8 1DIV: 0.5V 0.5ms
IC1401 PIN9



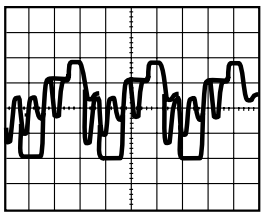
WF9 1DIV: 2V 20µs
TP2503 H-DRIVE



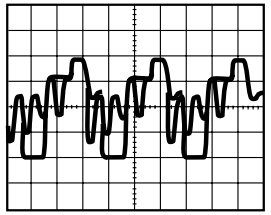
WF10 1DIV: 200V 20µs
Q2571 COLLECTOR



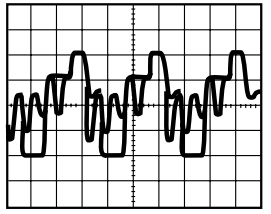
WF11 1DIV: 10V 5ms
CN2571 PIN 5



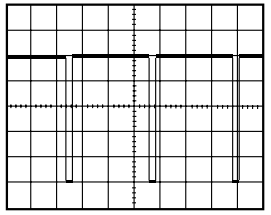
WF12 1DIV: 20V 20µs
Q2503 COLLECTOR



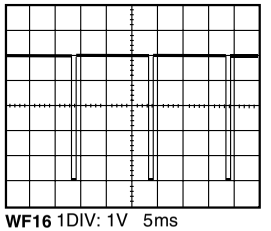
WF13 1DIV: 20V 20µs
Q2502 COLLECTOR



WF14 1DIV: 20V 20µs
Q2501 COLLECTOR

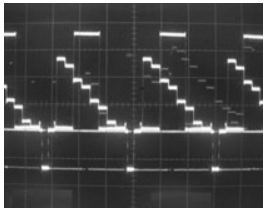


WF15 1DIV: 1V 20µs
IC1201 PIN 58

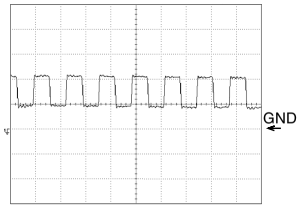


WF16 1DIV: 1V 5ms
IC1201 PIN 59

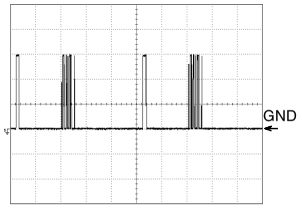
Input: Color Bar Signal (with 1kHz Audio Signal)
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint --- Center Contrast---Approx 70%)



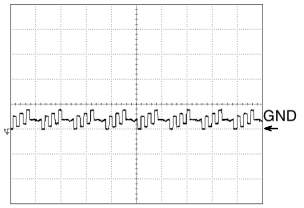
WF17 1DIV: 0.2V 20µs
CN2 PIN 8



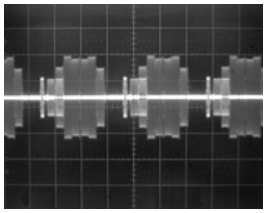
WF21 1DIV: 1V 500ns
Pin 2 of CN1101



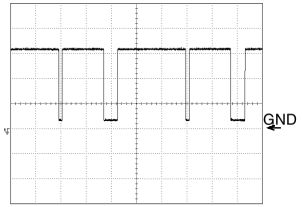
WF25 1DIV: 1V 20ms
Pin 10 of CN1101



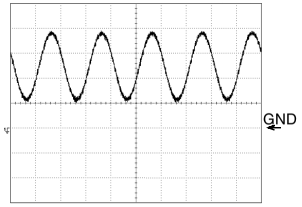
WF29 1DIV: 1V 50µs
Pin 20 of CN1102



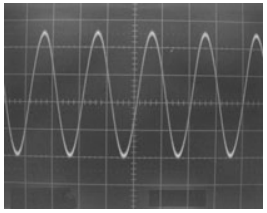
WF18 1DIV: 0.2V 20µs
CN2 PIN 6



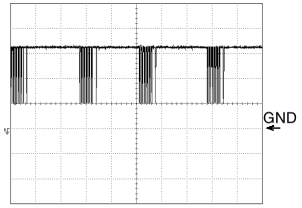
WF22 1DIV: 1V 20ms
Pin 7 of CN1101



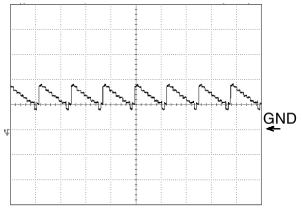
WF26 1DIV: 1V 500µs
Pin 15 of CN1102



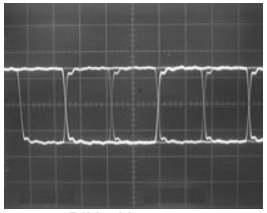
WF19 1DIV: 0.5V 0.5ms
CN2 PIN 4



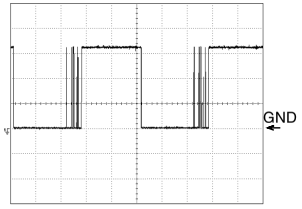
WF23 1DIV: 1V 20ms
Pin 8 of CN1101



WF27 1DIV: 1V 50µs
Pin 18 of CN1102



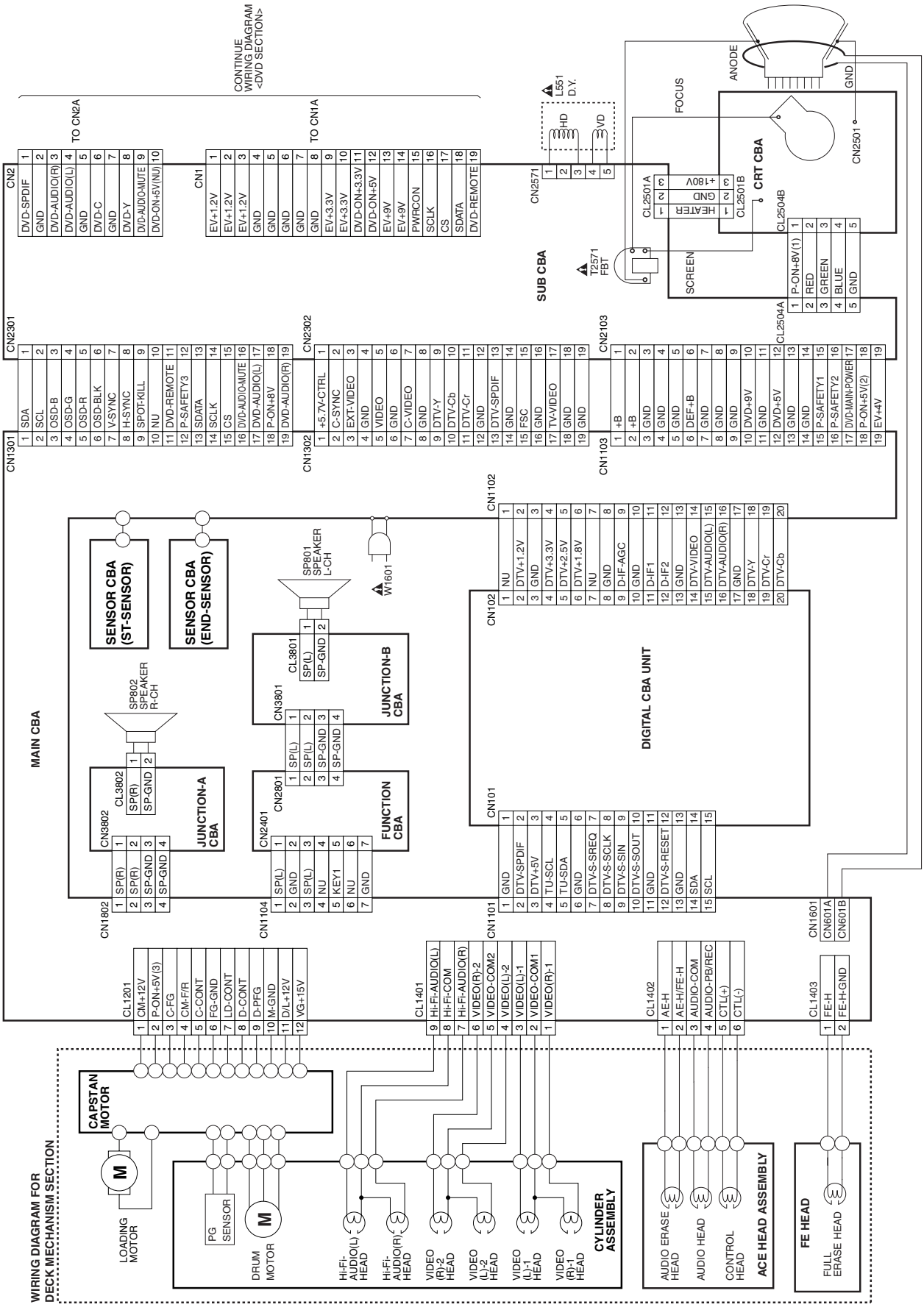
WF20 1DIV: 1V 0.1µs
CN2 PIN 1



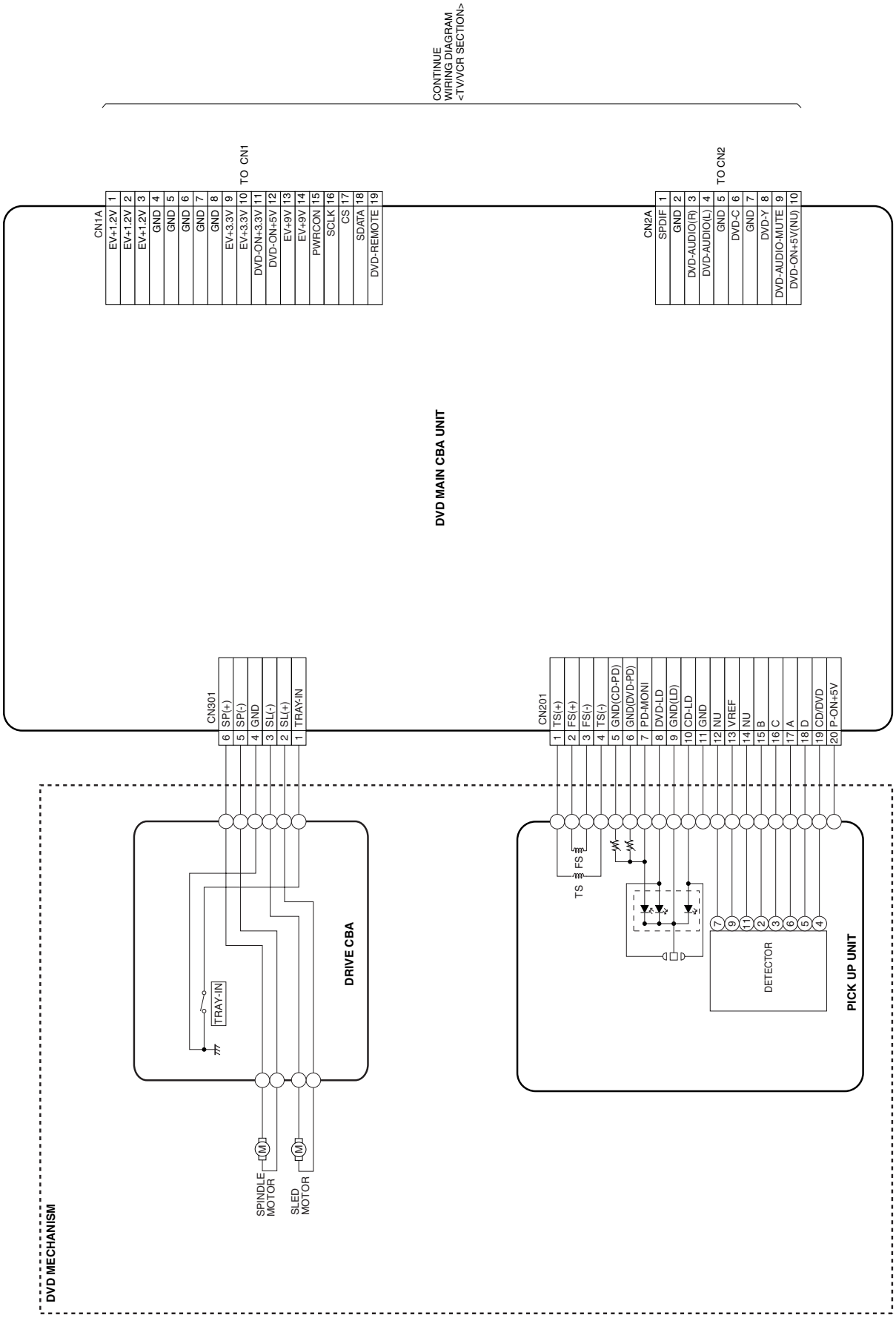
WF24 1DIV: 1V 20ms
Pin 9 of CN1101

WF28 1DIV: 1V 50µs
Pin 19 of CN1102

WIRING DIAGRAM < TV/VCR Section >



WIRING DIAGRAM < DVD Section >



SYSTEM CONTROL TIMING CHARTS

< TV/VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV “H”)
RS → EJ: Loading REV (LM-FWD / REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Chart 1

1) SP MODE

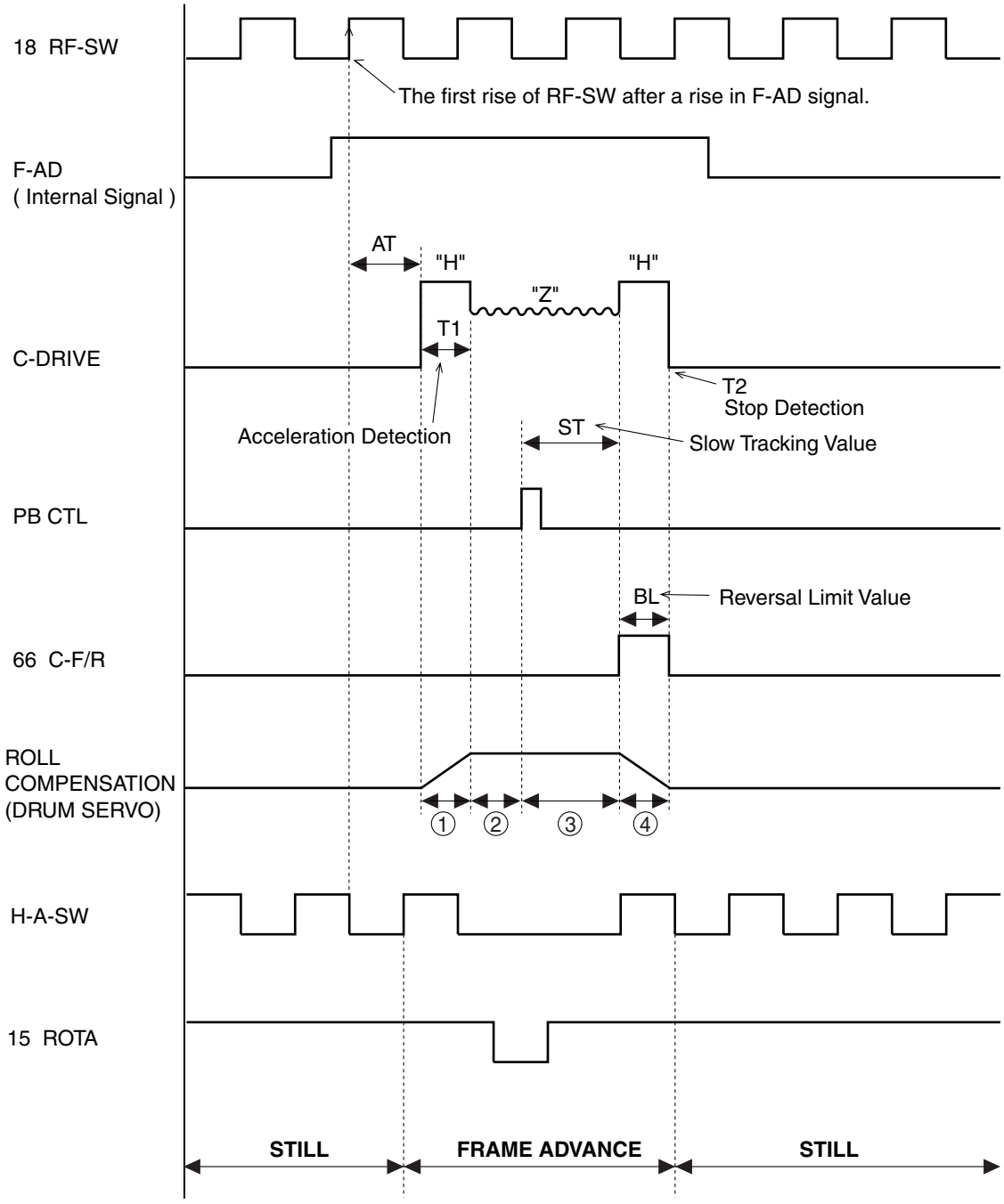


Chart 2

2) LP/EP MODE

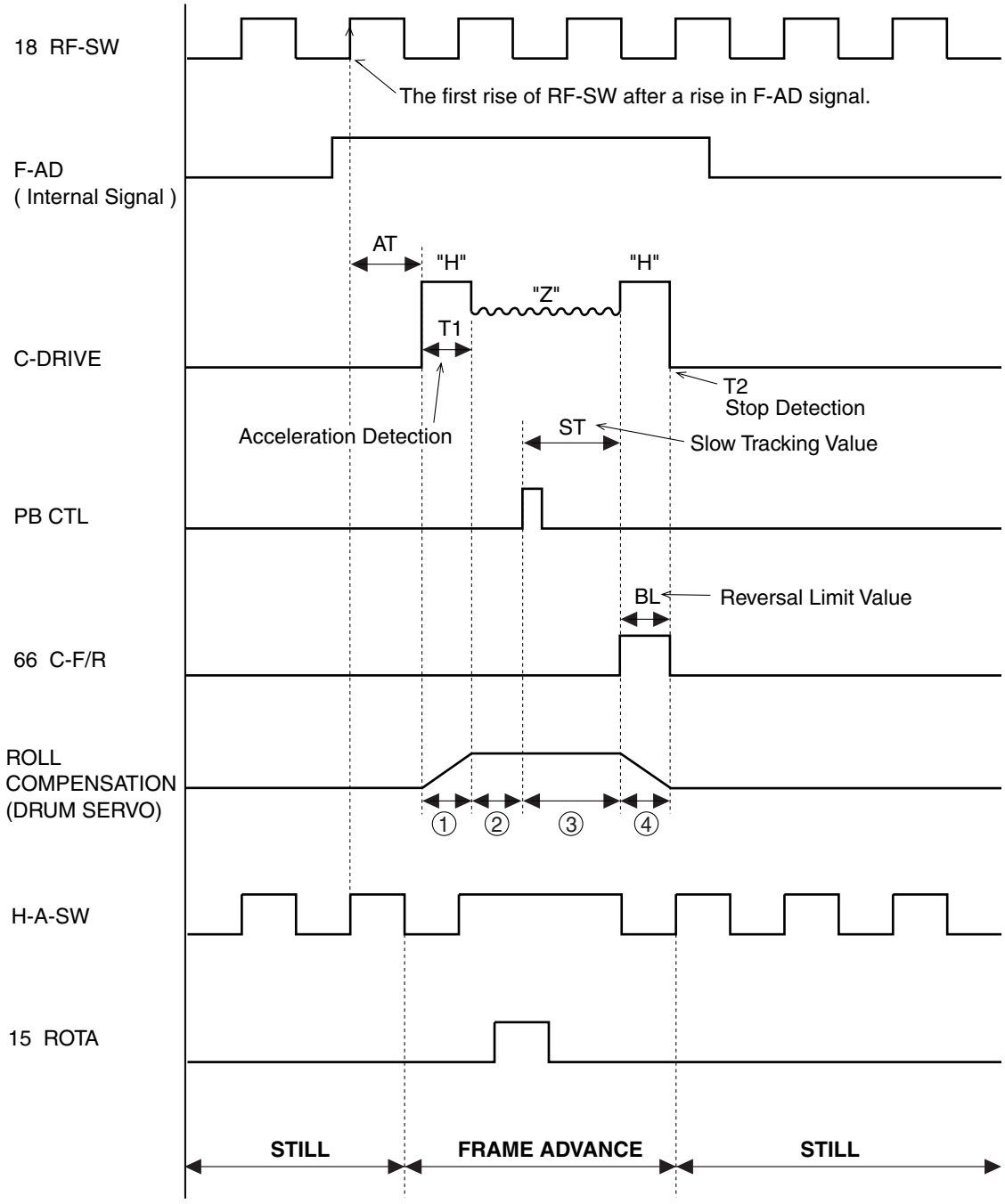


Chart 3

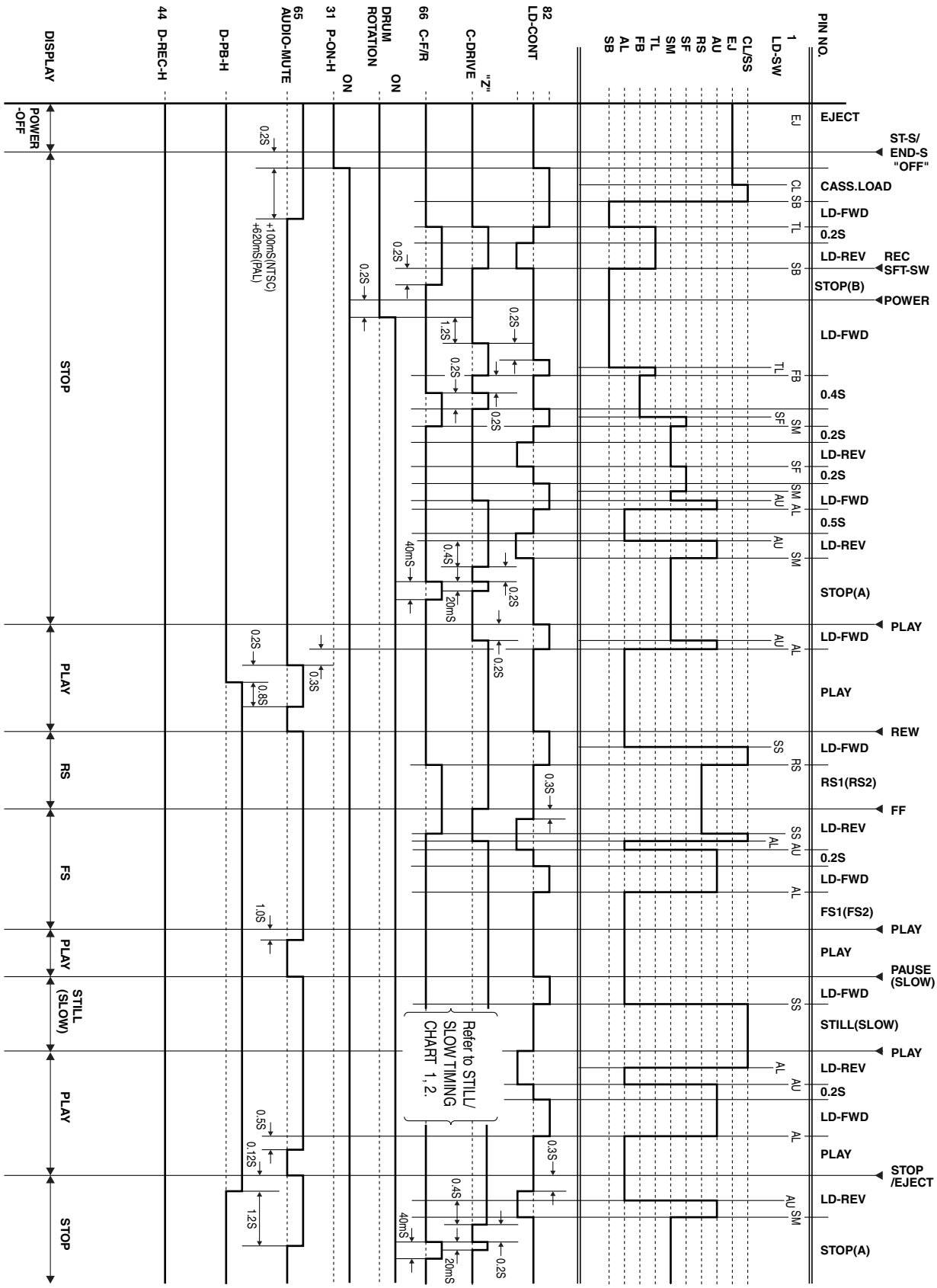
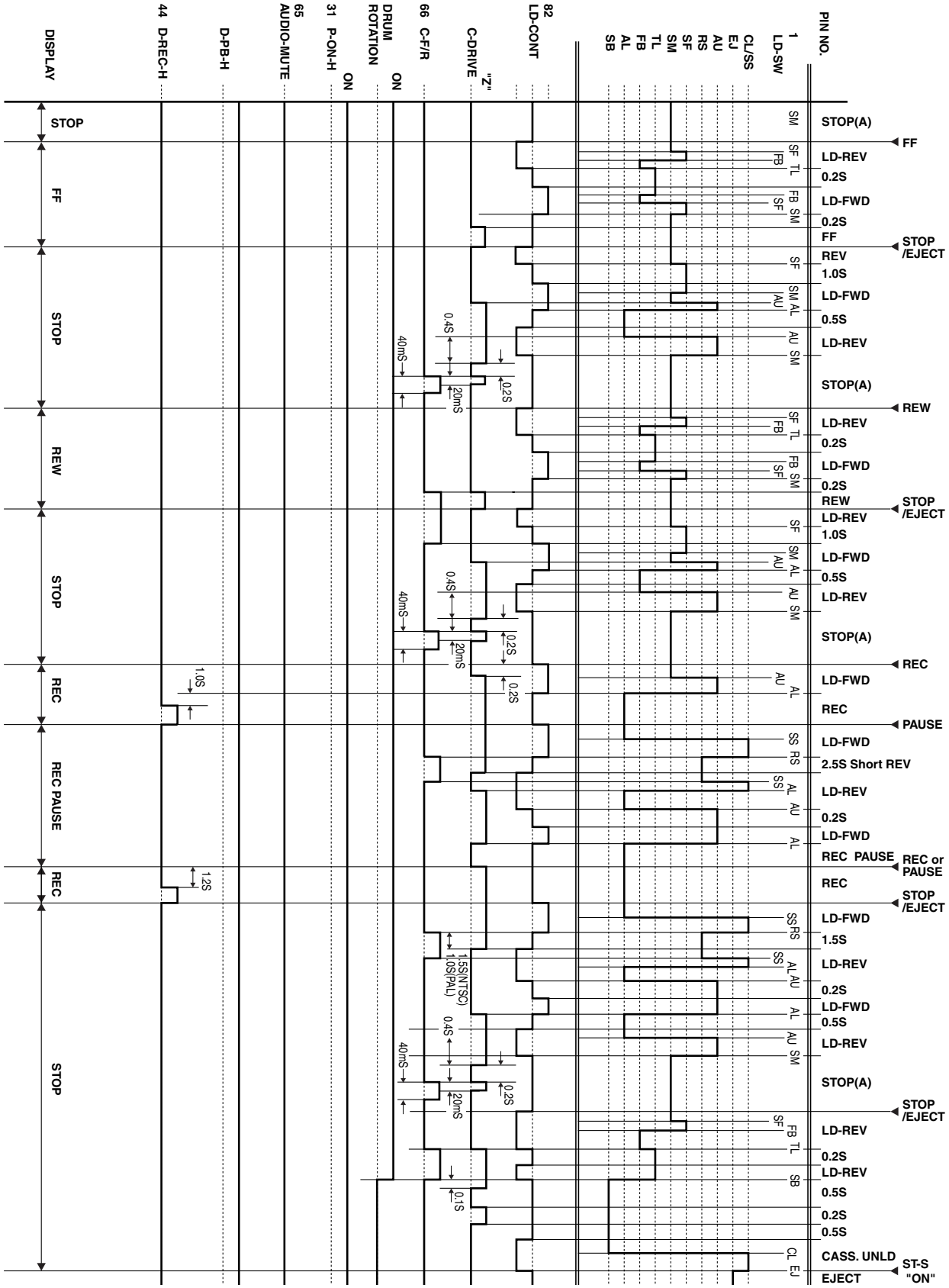
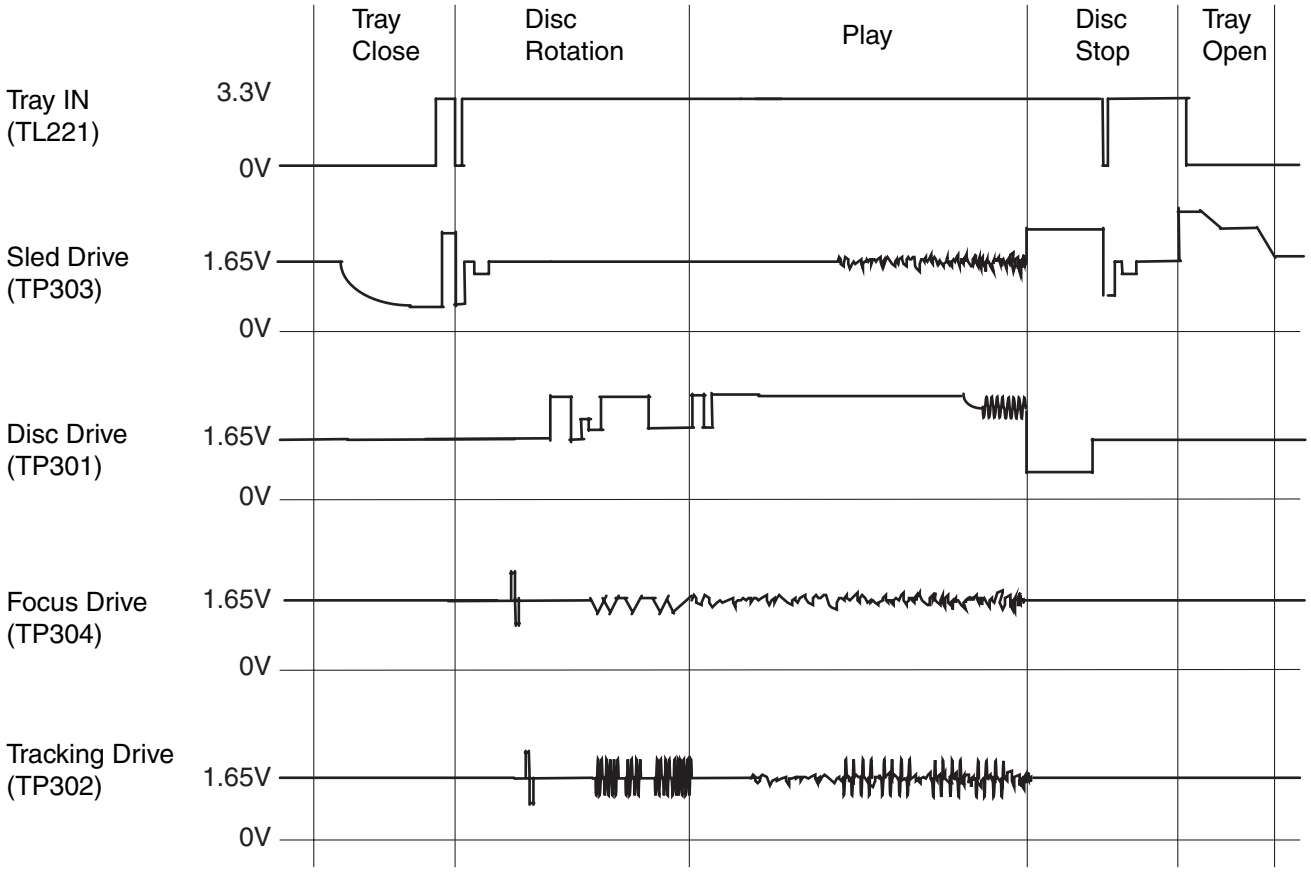

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL/SLOW -> PLAY -> STOP(A)
PIN NO.
1 LD-SW
EJ
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
82 LD-CONT
C-DRIVE "Z"
66 C-F/R
DRUM ROTATION
31 P-ON-H
65 AUDIO-MUTE
D-PB-H
44 D-REC-H
DISPLAY
POWER -OFF
EJECT
ST-S/ END-S "OFF"
CASS.LOAD
LD-FWD
0.2S
LD-REV
REC SFT-SW
STOP(B)
POWER
LD-FWD
0.4S
0.2S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
PLAY
LD-FWD
PLAY
REW
LD-FWD
RS1(RS2)
FF
LD-REV
0.2S
LD-FWD
FS1(FS2)
PLAY
PLAY
PAUSE (SLOW)
LD-FWD
STILL(SLOW)
PLAY
LD-REV
0.2S
LD-FWD
PLAY
STOP /EJECT
LD-REV
STOP(A)
Refer to STILL/ SLOW TIMING CHART 1, 2.
STOP
PLAY
RS
FS
PLAY
STILL (SLOW)
PLAY
STOP
+100mS(NTSC)
+620mS(PAL)
0.2S
1.2S
40mS
20mS
0.8S
0.3S
1.0S
0.5S
0.12S

Chart 4


2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
1 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
82 LD-CONT
C-DRIVE "Z"
66 C-F/R
DRUM ROTATION
31 P-ON-H
65 AUDIO-MUTE
D-PB-H
44 D-REC-H
DISPLAY
STOP(A)
FF
LD-REV
0.2S
LD-FWD
REV
1.0S
0.5S
REW
2.5S Short REV
REC
REC PAUSE
1.5S(NTSC)
1.0S(PAL)
0.4S
40mS
20mS
0.1S
CASS. UNLD
EJECT
ST-S "ON"
STOP
/EJECT
REC or PAUSE
ON

< DVD Section >

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

IC1201 (TV/VCR Micro Controller IC)

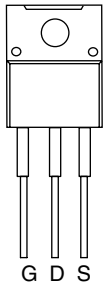
"H" ≥ 4.5 V, "L" ≤ 1.0 V

Pin No.	IN/ OUT	Signal Name	Function
1	IN	LD-SW	Loading Switch Input
2	OUT	DVD-LED	DVD LED Control Output
3	IN	P-SAFETY 2	Power Supply Failure Detection 2
4	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input
5	IN	KEY0	Key Input 0
6	IN	KEY1	Key Input 1
7	IN	END-SENS	End-Sensor
8	IN	AFT	AFT Voltage Input
9	IN	ST-SENS	Start-Sensor
10	IN	V-ENV	Video Envelope Input
11	OUT	VOLUME	Volume Control Signal Output
12	OUT	SP-MUTE	Speaker Mute Signal Output
13	OUT	DV-SYNC	Artificial Vertical Sync Output
14	IN	REMOTE	Remote Control Signal Input
15	OUT	ROTA	Color Phase Rotary Changeover Signal
16	OUT	V-H-SW	Video Head Amp Switching Pulse
17	IN	ENV-DET	Envelope Comparator Signal
18	OUT	RF-SW	Video Head Switching Pulse
19	OUT	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
20	OUT	D-REC /PB-H	Delayed Record/Playback Control Signal
21	OUT	REC-LED	REC LED Control Signal
22	IN	NORMAL-H	Audio Mode Input Signal
23	-	NU	Not Used
24	OUT	AUDIO-MUTE	Audio Mute Signal Output
25	OUT	DVD-REMOTE	Remote Control Signal Output to DVD
26	OUT	TV/VCR-LED	TV/VCR LED Control Signal
27	-	NU	Not Used
28	-	NU	Not Used
29	OUT	D-REC /PB-L	Delayed Record/Playback Control Signal
30	OUT	DTV-H	DTV On Signal at High
31	OUT	P-ON-H	Power On Signal at High
32	OUT	BUS-CONT	Bus Control
33	IN	REC-SAFETY	Record Protection Tab Detection
34	IN	RESET	System Reset Signal (Reset = "L")
35	IN	XC-IN	Sub Clock (32kHz)
36	OUT	XC-OUT	Sub Clock (32kHz)
37	-	TIMER+5V	Vcc
38	IN	X-IN	Main Clock (10.6MHz)
39	OUT	X-OUT	Main Clock (10.6MHz)
40	-	GND	GND
41	OUT	SPOT-KILL	Counter Measure for Spot
42	IN	DVD-MAIN-POWER	Power On Signal at High for DVD
43	IN	CLKSEL	Clock Select (GND)
44	OUT	D-REC-H	Delayed Record Control Signal
45	IN	I2C-OPEN	Chip Select
46	-	GND	GND
47	IN	DVD-AUDIO-MUTE	DVD Audio Mute Signal
48	OUT	DVD-H	DVD at High
49	-	GND	GND
50	IN	CS	DVD Interface Chip Select
51	IN	SCLK	DVD Interface Serial Clock
52	IN	SDATA	DVD Interface Serial Data
53	-	P-ON+5V	OSD Vcc
54	-	HLF	Horizontal Filter
55	IN	V-HOLD	Vertical Hold
56	IN	CV-IN	Composite Video Signal Input
57	-	GND	GND
58	IN	H-SYNC	Horizontal SYNC Input
59	IN	V-SYNC	Vertical SYNC Input
60	OUT	OSD-BLK	Output for Picture Cut off
61	OUT	DG-ON-H	Degaussing Coil Control Signal
62	OUT	OSD-B	Blue Signal Output
63	OUT	OSD-G	Green Signal Output

Pin No.	IN/ OUT	Signal Name	Function
64	OUT	OSD-R	Red Signal Output
65	OUT	DTV-S-SOUT	DTV Serial Data Output
66	IN	DTV-S-SIN	DTV Serial Data Input
67	OUT	DTV-S-SCLK	DTV Serial Clock
68	OUT	YCA-SDA	YCA Serial Data
69	OUT	YCA-CS	YCA Chip Select
70	OUT	YCA-SCL	YCA Serial Clock
71	OUT	SCL	Serial Clock
72	IN/ OUT	SDA	Serial Data
73	OUT	C-F/R	Capstan Motor FWD/REV Control Signal
74	IN	C-SYNC	Composite Sync Input
75	OUT	P-ON-H2	Power On Signal at High
76	OUT	C-CONT	Capstan Motor Control Signal
77	OUT	D-CONT	Drum Motor Control Signal
78	IN	P-SAFETY 3	Power Supply Failure Detection 3
79	-	NU	Not Used
80	IN	T-REEL	Take Up Reel Rotation Signal
81	OUT	DTV-S-RESET	DTV Reset
82	OUT	LD-CONT	Loading Motor Control Signal
83	OUT	DIGITAL-AUDIO-H	Digital Audio Signal
84	IN	P-DOWN	Power Voltage Down Detector Signal
85	IN	DTV-S-SREQ	DTV Serial Request
86	-	NU	Not Used
87	IN	C-FG	Capstan Motor Rotation Detection Pulse
88	-	GND	GND (AMP)
89	-	NU	Not Used
90	IN	D-PFG	Drum Motor Pulse Generator
91	-	NU	Not Used
92	IN	AMP-VREF-IN	Standard Voltage Input
93	-	C	Ext. Capacitor Connection Port for Analog Amp
94	IN/ OUT	CTL (-)	Record/Playback Control Signal (-)
95	IN/ OUT	CTL (+)	Record/Playback Control Signal (+)
96	-	AMPC	Amp Capacitor
97	OUT	CTL-AMP-OUT	Control Amp Output
98	-	P-ON+5V	Power Supply for AMP
99	-	AL+5V	A/D, D/A Standard Voltage
100	IN	P-SAFETY 1	Power Supply Failure Detection 1

LEAD IDENTIFICATIONS

2SK3407(F)



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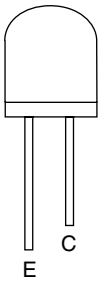
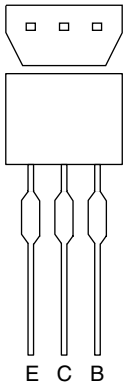
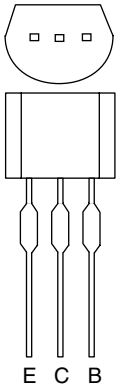


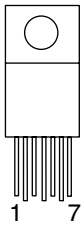


2SC2785(F,J)
KRA103M-AT/P
KRC103M-AT/P
KTC3199-GR-AT/P
KTC3199-Y-AT/P

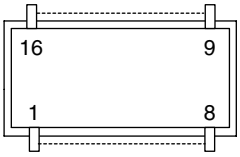


2SA1175(F)
2SA950-O(TE2 F T)
2SC2120-O(TE2 F T)
2SC1627-Y(TE2.F.T)
2SC3331(T)
2SC3708S
2SD400(F)

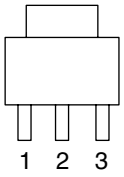
LA78041-E



AN17812A

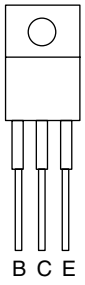


TLV1117IDCYRG3

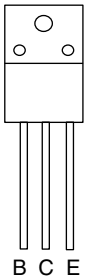


1: GND
2: Vout
3: Vin

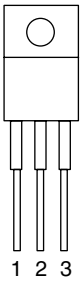
2SC5360 FA Q



2SD1666R

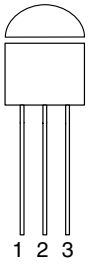


KIA7805API/P



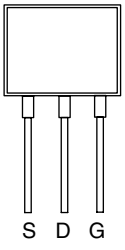
1: IN
2: GND
3: OUT

KIA431-AT/P

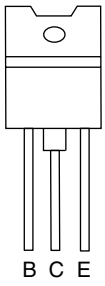


1: R
2: A
3: K

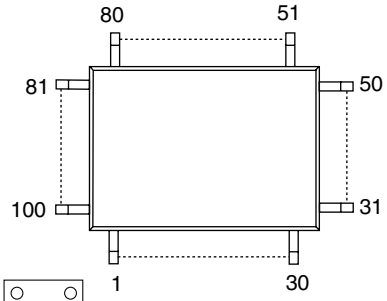
2SK2599



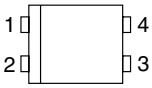
TT2190LS



M3776AMCH-BA8GP

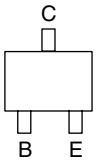


LTV-817C-F

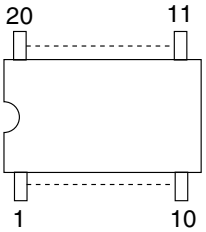


1: A
2: K
3: E
4: C

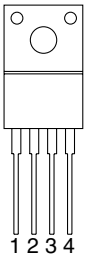
2SC4081 T106 Q



M61116FP TF0G

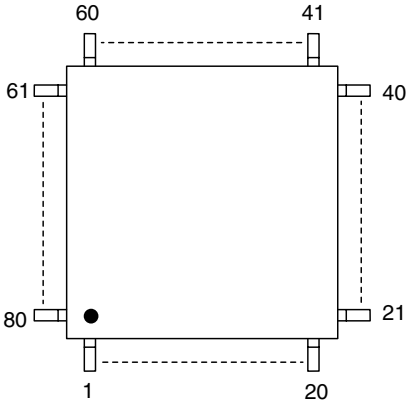


PQ070XF01SZH

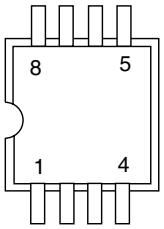


1: Vin
2: Vo
3: GND
4: Vc

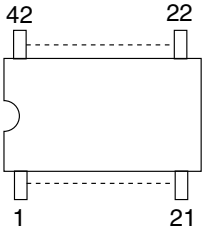
LA71205M-MPB-E
LA72670BM-MPB-E



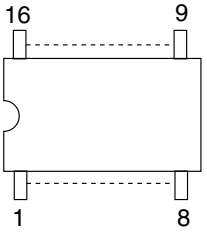
CAT24WC04WI-TE13
BR24L64F-WE2



M61276FPTF0H



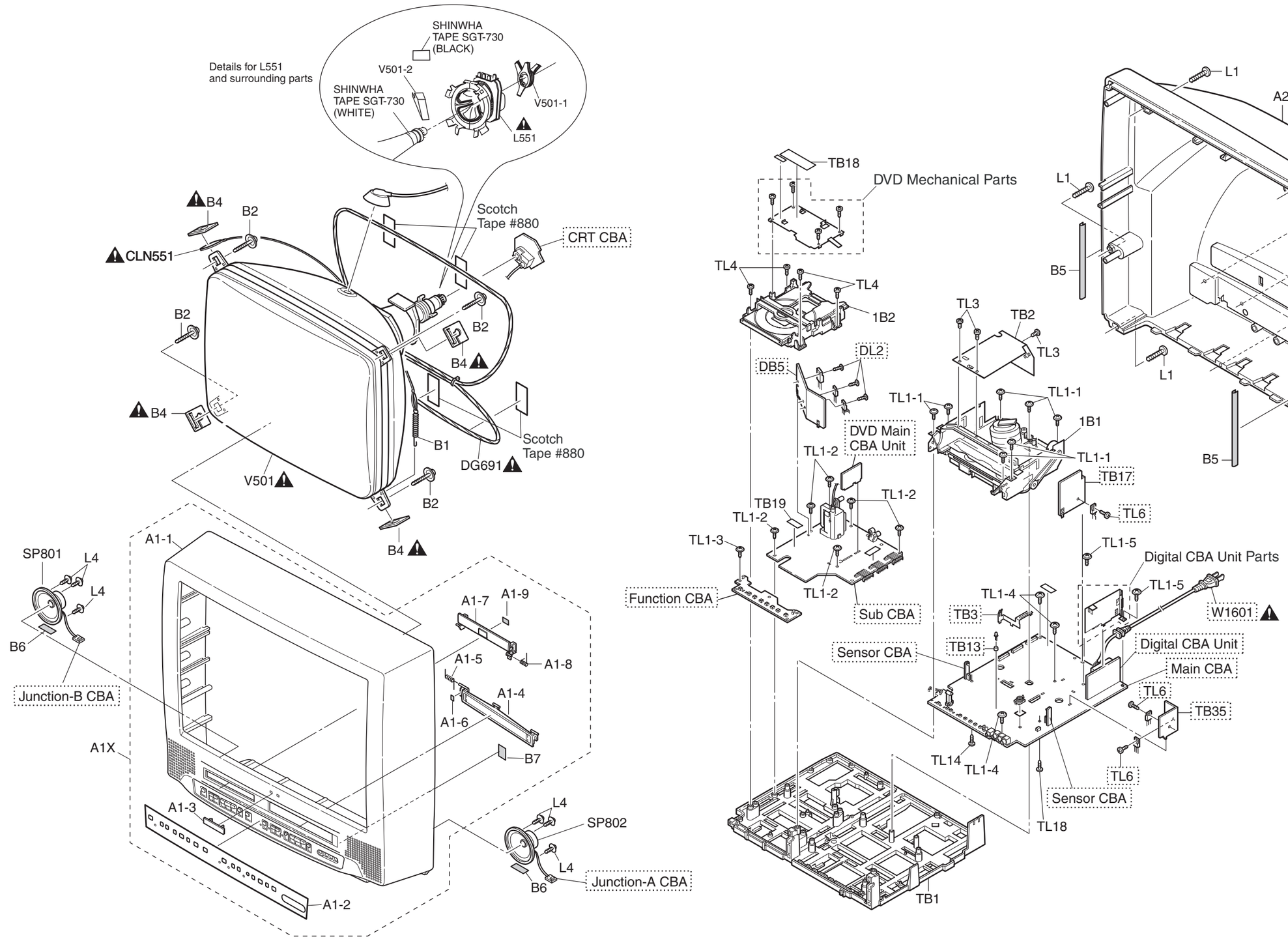
TC4053BF(EL N F)



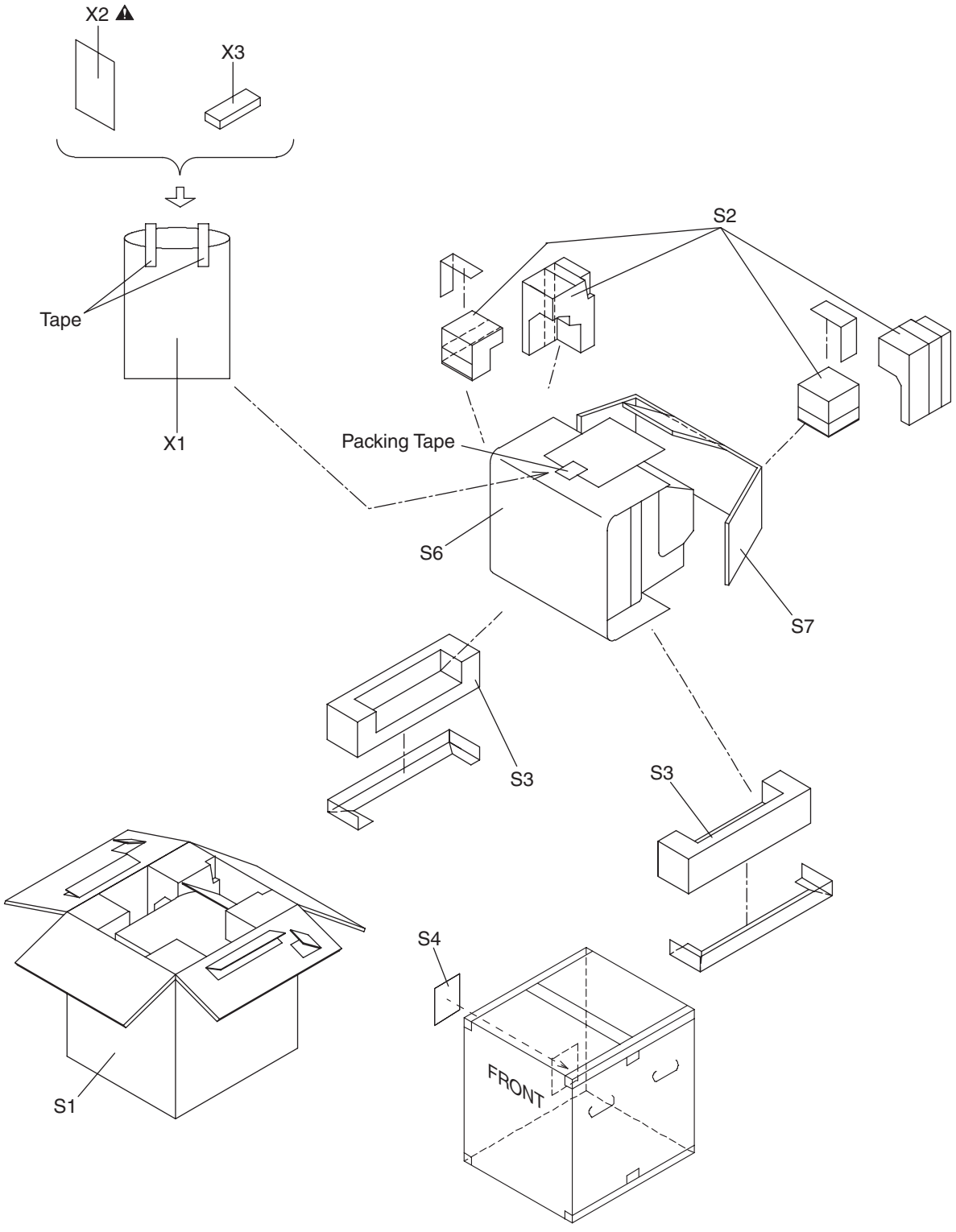
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY T3251UB	1EM021665
A1-1	FRONT CABINET T3251UB	1EM021666
A1-2	CONTROL PLATE T3251UB	1EM221542
A1-3	BADGE BRAND T7310UL ~MAGNAVOX~	0EM407275
A1-4	CASSETTE DOOR T3251UB	1EM424230
A1-5	SPRING DOOR T1200UA	1EM422903
A1-6	CLOTH(4X7XT0.7) T5000UA	0EM404974
A1-7	PANEL TRAY TD601UB	0EM407373A
A1-8	TRAY SPRING TD707UH	0EM408552
A1-9	CLOTH(B) L5201U0 15X10X1.0T	0EM400076
A2	REAR CABINET T3200UA	1EM021420
A3⚠	RATING LABEL T3251UB	----------
1B1	DECK ASSEMBLY CZD014/VM2466	N2466FT
1B2	DVD MECHA X7 TRIPLE N79U1KVM	N79U1KVM
B1	SPRING TENSION B0080B0 EM40808	26WH006
B2	SCREW M7 CRT(D22) T7205UF	0EM406573A
B4⚠	HOLDER DEGAUSS L1200UA	0EM405869
B5	CLOTH 190X15XT0.5	TS7623
B6	CLOTH(10X30XT0.5) B5900UA	0EM404486
B7	CLOTH(15X10XT0.5) L9700UA	0EM405038
CLN551⚠	CRT GND WIRE	WX1L1200-007
DG691⚠	DEGAUSSING COIL F-029	LLBH00ZTM029
L1	SCREW P-TIGHT 4X18 BIND HEAD +	GBJP4180
L2	SCREW TAPPING M4X14	DBT14140
L3-1	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L3-2	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L4	SCREW ASSEMBLED M3X12	0EM406746A
SP801	SPEAKER MAGNETIC S08F72	DSD0808XQ017
SP802	SPEAKER MAGNETIC S08F72	DSD0808XQ017
TB1	TRAY CHASSIS T3220UA	1EM021069
TB2	TOP SHIELD T1100UA	1EM320155
TB18	LASER CAUTION LABEL T8200UA	----------
TB19	27V CHASSIS NO. LABEL TJ T3200UA	----------
TL1-1	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-2	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-3	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-4	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-5	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL3	SCREW S-TIGHT M3X4 BIND HEAD	GBJS3040
TL4	SCREW P-TIGHT 3X20 BIND HEAD +	GBJP3200
TL14	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
TL18	SCREW P-TIGHT M3X8 BIND HEAD+ BLK	GBHP3080
V501-2	WEDGE FT-00110W	XV10000T4001
PACKING		
S1	CARTON T3251UB	1EM424232
S2	STYROFOAM TOP ASSEMBLY TD953TD	1ESA14135
S3	STYROFOAM BOTTOM ASSEMBLY TD953TD	1ESA14136
S4	RFID LABEL P7100UM	----------
S6	SHEET SET PCEC 003502019816	0EM403887
S7	PAD HOLD TD370UA	0EM406716
ACCESSORIES		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2⚠	OWNERS MANUAL T3251UB	1EMN22129
X3	REMOTE CONTROL NF109UD 151/ECNX801/ NF109UD	NF109UD
Note: 1. V501 (CRT) HAS COUPLE OF SUBSTITUTIONAL PARTS AND EACH PARTS ALSO HAS MATCHING COMBINATION WITH L551. PLEASE SEE TABLE 1 FOR DETAILS OF MATCHING COMBINATION. 2. L551 (DEFLECTION YOKE) HAS MATCHING COMBINATION WITH V501. PLEASE SEE TABLE 1 FOR DETAILS OF MATCHING COMBINATION.		
CRT TYPE A		
L551⚠	DEFLECTION YOKE CDY-F2927H	LLBY00ZQS014
V501⚠	CRT A68QBT892X	TCRT190SM028
V501-1	PCM JH88DTA	XM04000BV010
CRT TYPE B		
L551⚠	DEFLECTION YOKE 6150Z-1046A	LLBY00ZGS008
V501⚠	CRT A68QBC230X	TCRT190GS043
V501-1	PCM JH88DTA	XM04000BV010

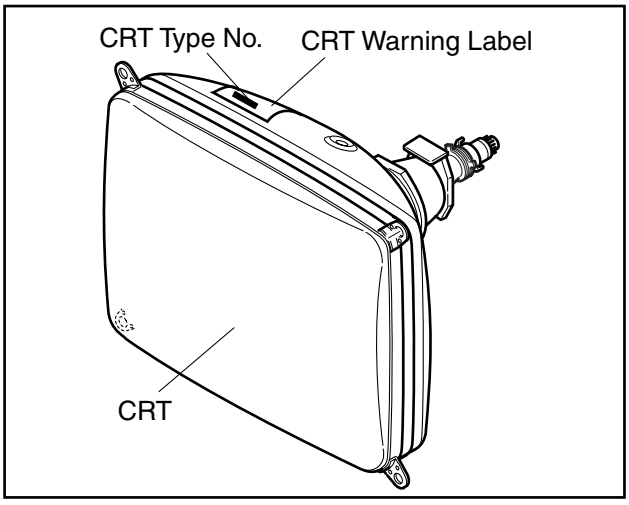
Table 1 (V501 and L551 Combination)

Note 1: Purity and Convergence Adjustments must be performed following CRT replacement. Refer to Electrical Adjustment Instructions.

Note 2: Please confirm CRT Type No. on the CRT Warning Label which is located on the CRT. Then See the Table 1 for V501 and L551 combination chart. Please refer this CRT, Deflection Yoke combination chart for parts order.

V501: CRT Type No.	V501: CRT Part No.	L551: Deflection Yoke Part No.
A68QBT892X	TCRT190SM028	LLBY00ZQS014
A68QBC230X	TCRT190GS043	LLBY00ZGS008

CRT Warning Label Location



ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DIGITAL CBA UNIT

Ref. No.	Description	Part No.
	DIGITAL CBA UNIT	1ESA13088

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N7CT7KUP

MMA CBA

Ref. No.	Description	Part No.
	MMA CBA Consists of the following:	1ESA13161
	MAIN CBA SENSOR CBA	---------- 1ESA12193

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	----------
	CAPACITORS	
C1002	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1003	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1006	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1008	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1009	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1010	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1030	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1034	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1035	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1037	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C1039	ELECTROLYTIC CAP. 47μF/6.3V M	CE0KMASDL470
C1040	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1041	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1043	FILM CAP.(P) 0.018μF/50V J	CMA1JJS00183
C1044	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C1045	CHIP CERAMIC CAP. CH D 3pF/50V	CHD1JD3CH3R0
C1046	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1049	CERAMIC CAP.(AX) CH K 2.7pF/50V	CCA1JKTCH2R7
C1050	CHIP CERAMIC CAP. CH D 6pF/50V	CHD1JD3CH6R0
C1121	CHIP CERAMIC CAP. CH J 220pF/50V	CHD1JJ3CH221
C1122	CHIP CERAMIC CAP. CH J 220pF/50V	CHD1JJ3CH221
C1123	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1124	ELECTROLYTIC CAP. 33μF/16V M	CE1CMASDL330
C1126	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1127	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1128	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1129	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1130	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C1131	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C1133	ELECTROLYTIC CAP. 4700μF/6.3V SM	CE0KMZPDL472
C1134	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1135	CHIP CERAMIC CAP.(1608) CH J 68pF/50V	CHD1JJ3CH680
C1136	CHIP CERAMIC CAP.(1608) CH J 68pF/50V	CHD1JJ3CH680
C1137	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C1138	CHIP CERAMIC CAP. B K 2.2μF/10V	CHD1AK30B225
C1139	CHIP CERAMIC CAP. B K 2.2μF/10V	CHD1AK30B225
C1203	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1206	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1207	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1208	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1210	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1212	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C1213	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C1214	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1217	CHIP CERAMIC CAP.(1608) CH D 10pF/50V	CHD1JD3CH100
C1218	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJ3CH150
C1220	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1222	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1223	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1224	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1225	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1234	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1235	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C1239	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1240	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1241	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1243	ELECTROLYTIC CAP. 22μF/16V M LL	CE1CMASLH220
C1245	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1247	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1251	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C1252	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C1253	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1254	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C1264	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHD1JZ30F473
C1299	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1410	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1411	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C1413	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C1414	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
C1415	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C1416	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1417	CHIP CERAMIC CAP. B K 220pF/50V	CHD1JK30B221
C1418	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1419	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1420	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1421	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1422	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1423	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7

Ref. No.	Description	Part No.
C1424	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1425	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1426	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1427	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1428	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1429	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1430	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1431	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1432	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1435	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1436	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1437	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1438	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1439	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1441	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1442	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1443	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1444	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C1452	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1463	CHIP CERAMIC CAP. CH J 820pF/25V	CHD1EJ3CH821
C1464	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C1465	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1466	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1468	ELECTROLYTIC CAP. 33μF/16V M H7	CE1CMAVSL330
C1469	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1602	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1604⚠	METALIZED FILM CAP. 0.22μF/250V	CT2E224MS037
C1605⚠	METALIZED FILM CAP. 0.33μF/250V	CT2E334MS037
C1610	ELECTROLYTIC CAP. 470μF/200V LX	CA2D471S6017
C1611	CERAMIC CAP. BN 820pF/2KV	CCD3DKA0B821
C1612	FILM CAP.(P) 0.047μF/50V J	CMA1JJS00473
C1613	FILM CAP.(P) 0.0015μF/50V J	CMA1JJS00152
C1614⚠	FILM CAP.(P) 0.1μF/50V J	CMA1JJS00104
C1616	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPDL101
C1617⚠	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASDL471
C1618	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C1619	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C1621	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C1624	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1626	ELECTROLYTIC CAP. 10μF/50V M	CE1JMASDL100
C1630⚠	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C1651	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1652	FILM CAP.(P) 0.0047μF/50V J	CMA1JJS00472
C1653	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1671	CERAMIC CAP. B K 2200pF/500V	CCD2JKS0B222
C1688	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1689	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C1690	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C1740	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1747	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1748	CHIP CERAMIC CAP.(1608) B K 0.033μF/50V	CHD1JK30B333
C1752	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1753	ELECTROLYTIC CAP. 10μF/25V M H7	CE1EMAVSL100
C1754	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1755	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1756	ELECTROLYTIC CAP. 10μF/25V M H7	CE1EMAVSL100
C1757	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1758	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1759	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1760	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1762	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1763	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1764	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101

Ref. No.	Description	Part No.
C1766	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C1769	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1770	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1771	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1772	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1773	ELECTROLYTIC CAP. 10μF/25V M H7	CE1EMAVSL100
C1774	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1775	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1776	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1777	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1778	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1779	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C1780	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1781	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1782	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1783	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1784	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1786	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1787	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1788	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1789	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1790	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1791	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1792	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1793	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1794	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1795	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1797	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C1801	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C1803	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1804	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1807	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C1811	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1813	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1814	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C1815	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C1818	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1819	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1821	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C1850	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1851	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1852	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1853	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1855	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1856	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1870	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1871	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMAVSL101
C1872	CERAMIC CAP. B K 470pF/100V	CCD2AKS0B471
C1873	FILM CAP.(P) 0.018μF/100V J	CMA2AJS00183
C1900	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C1901	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C1903	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C1904	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C1905	ELECTROLYTIC CAP. 2.2μF/250V M	CA2E2R2S6009
C1906	CERAMIC CAP. B K 330pF/500V	CCD2JKS0B331
C1907	FILM CAP.(P) 0.0018μF/50V J	CMA1JJS00182
C1908	CERAMIC CAP.(AX) X M 4700pF/16V	CCA1CMT0X472
C1909	CERAMIC CAP.(AX) X M 4700pF/16V	CCA1CMT0X472
C1910	ELECTROLYTIC CAPACIT0R 150μF/200V	CA2D151S6012
C1912	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
CONNECTORS		
CN601A	TERMINAL PRINTBORD PIN MS-PIN155155	JTEA001CHY01

Ref. No.	Description	Part No.
CN601B	TERMINAL PRINTBORD PIN MS-PIN155155	JTEA001CHY01
CN1103	BOARD CONNECTOR 19P(PB FREE) 127301119K2	JCTWA19TG004
CN1104	TWG CONNECTOR 07P TWG-P07P-A1	J3TWA07TG001
CN1301	BOARD CONNECTOR 19P(PB FREE) 127301119K2	JCTWA19TG004
CN1302	BOARD CONNECTOR 19P(PB FREE) 127301119K2	JCTWA19TG004
CN1802	242 SERIES CONNECTOR 224202104W1	J322C04TG001
DIODES		
D1101⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1102⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1103⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1105	ZENER DIODE MTZJT-775.6C	QDTC0MTZJ5R6
D1106	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1107	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1109⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1110⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1111	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1112	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1204	LED LTL-4214M1	NPQZLTL4214M
D1216	LED LAMP 333GT/F45-50	NPWZ3GTF4550
D1217	LED LTL-4214M1	NPQZLTL4214M
D1224	LED SIR-563ST3F P	QPQPS1R563ST
D1229⚠	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D1230⚠	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D1231	ZENER DIODE MTZJT-7718A	QDTA00MTZJ18
D1419	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1420	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1603⚠	DIODE 1N5406	NDLZ001N5406
D1604⚠	DIODE 1N5406	NDLZ001N5406
D1605⚠	DIODE 1N5406	NDLZ001N5406
D1606⚠	DIODE 1N5406	NDLZ001N5406
D1607⚠	ZENER DIODE MTZJT-7724C	QDTC00MTZJ24
D1609	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1610	ZENER DIODE MTZJT-776.2B	QDTB0MTZJ6R2
D1611	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1612	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1613⚠	FAST RECOVERY DIODE FE201-6	QDLZ00FE2016
D1614⚠	DIODE FR154	NDLZ000FR154
D1615⚠	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1616⚠	FAST RECOVERY DIODE FR202	NDWZ000FR202
D1617⚠	DIODE FR154	NDLZ000FR154
D1618⚠	ZENER DIODE MTZJT-7718B	QDTB00MTZJ18
D1620⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1621	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1622⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1623⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1624⚠	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D1626	ZENER DIODE MTZJT-7733B	QDTB00MTZJ33
D1627⚠	ZENER DIODE MTZJT-7716C	QDTC00MTZJ16
D1628⚠	SCHOTTKY BARRIER DIODE SB240-B/P	NDQZ000SB240
D1634	ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D1635	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1636⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1637	DIODE FR104-B	NDLZ000FR104
D1640⚠	DIODE 1ZC36(Q)	QDLZ001ZC36Q
D1641⚠	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D1645⚠	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D1657	PCB JUMPER D0.6-P5.0	JW5.0T
D1680⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1682	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1683	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1684⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D1685⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1687⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1688⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1689⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1692	PCB JUMPER D0.6-P5.0	JW5.0T
D1811⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1812	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1813	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1901⚠	DIODE FR104-B	NDLZ000FR104
D1902⚠	DIODE FR154	NDLZ000FR154
D1903⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1904⚠	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D1905	ZENER DIODE MTZJT-776.2C	QDTC0MTZJ6R2
D1906⚠	ZENER DIODE MTZJT-7736A	QDTA00MTZJ36
D1907⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1908	RECTIFIER DIODE BA158	NDQZ000BA158
D1909	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1910⚠	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
ICS		
IC1001	IC VIF/SIF M61116FP TF0G	QSZBA0SHT034
IC1101⚠	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC1102⚠	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC1104	IC BR24L64F-WE2	QSZBA0TRM071
IC1105	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC1106	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC1201⚠	IC MICRO COMPUTER M3776AMCH-BA8GP	QSZAB0RHT118
IC1202	IC CAT24WC04WI-TE13	NSZBA0TBG008
IC1401	IC Y/C/A LA71205M-MPB-E	QSZBA0RSY037
IC1601⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1682⚠	IC VOLTAGE REGULATOR 5V KIA7805API/P	NSZBA0SJY041
IC1701	IC HIFI LA72670BM-MPB-E	QSZBA0RSY039
IC1803	IC AN17812A	QSZBA0SMS017
IC1850	IC SWITCH TC4053BF(EL N F)	QSZBA0TTS163
IC1901⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1902⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
COILS		
L1031	CHOKE COIL 47μH	LLBD00PKV022
L1032	PCB JUMPER D0.6-P5.0	JW5.0T
L1033	INDUCTOR 150μH-J-26T	LLAXJATTU151
L1100	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
L1111	CHOKE COIL 47μH	LLBD00PKV022
L1112	CHOKE COIL ELC10D470EM	LLC470KMS003
L1113	CHOKE COIL 47μH	LLBD00PKV022
L1202	INDUCTOR 0.10μH-K-26T	LLAXKATTUR10
L1601⚠	LINE FILTER JLB2460	LLBG00ZXB012
L1602	CHOKE COIL 47μH	LLBD00PKV022
L1872	INDUCTOR 47μH-K-5FT	LLARKBSTU470
TRANSISTORS		
Q1103	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1104⚠	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q1105⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1106⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1107⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1108	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1109	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1110⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1111	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1112	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q1113	TRANSISTOR 2SC4081 T106 Q	QQ1Q02SC4081
Q1205	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1206	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q1207	TRANSISTOR 2SC2785(F)	QQSF02SC2785

Ref. No.	Description	Part No.
Q1208	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1209	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1210	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1221	RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q1401	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1402	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1403	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1404	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1601⚠	FET 2SK3407(F)	QFWZ2SK3407F
Q1602⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1603⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1604⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1605	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1607⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1613⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1614⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1681⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1688⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1689⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1701	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1850	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1871	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1872	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1873	TRANSISTOR 2SC3331(T)	QSC3331TNPAA
Q1874	TRANSISTOR 2SC3331(T)	QSC3331TNPAA
Q1875	RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q1901	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q1902⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1903⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1904⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q1905	FET MOS 2SK2599(SCFUNAI Q)	QFQZ2SK2599Q
Q1906	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
	RESISTORS	
R1001	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1002	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1003	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1031	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1032	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1033	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R1034	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1037	CHIP RES. 1/10W J 180 Ω	RRXAJR5Z0181
R1038	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1039	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1040	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1041	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1042	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1043	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1049	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1050	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1109	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1120	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1121	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1122	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1126	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1129	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1130	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1140	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1141	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1142	PCB JUMPER D0.6-P5.0	JW5.0T
R1143	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1144	METAL OXIDE FILM RES. 1W J 6.8 Ω	RN016R8ZU001
R1145	METAL OXIDE FILM RES. 1W J 4.7 Ω	RN014R7ZU001

Ref. No.	Description	Part No.
R1146	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R1147	CARBON RES. 1/2W J 2.2 Ω	RCX2JZQZ02R2
R1148	CARBON RES. 1/4W J 1.2 Ω	RCX4JATZ01R2
R1149	CHIP RES.(1608) 1/10W F 220k Ω	RRXAFR5H0224
R1150	CHIP RES. 1/10W F 2.2k Ω	RRXAFR5H2201
R1151	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R1152	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R1153	CHIP RES. 1/10W F 220 Ω	RRXAFR5H2200
R1154	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R1155	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1156	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1157	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1158	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1159	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1160	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1161	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1162	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1163	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1164	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1165	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1166	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1167	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1168	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1169	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1170	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1171	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1172	CHIP RES. 1/10W F 150 Ω	RRXAFR5H1500
R1173	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1174	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R1175	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1176	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R1177	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R1178	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1179⚠	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1200	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1201	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1202	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R1203	CHIP RES. 1/10W F 470 Ω	RRXAFR5H4700
R1204	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1205	CHIP RES. 1/10W F 3.6k Ω	RRXAFR5H3601
R1206	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1208⚠	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1209	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1210	CHIP RES. 1/10W F 15k Ω	RRXAFR5H1502
R1211	CHIP RES. 1/10W F 6.8k Ω	RRXAFR5H6801
R1212	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1213	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1214	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1215	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1216	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1217	CHIP RES. 1/10W F 2.2k Ω	RRXAFR5H2201
R1218	CHIP RES. 1/10W F 2.7k Ω	RRXAFR5H2701
R1219	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1220	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R1221	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1222	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R1224	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1225	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1226	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R1227	CHIP RES. 1/10W J 270 Ω	RRXAJR5Z0271
R1228	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1229	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1230	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000

Ref. No.	Description	Part No.
R1231	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1232	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1233	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1234	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R1235	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R1236	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1237	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1238	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R1239	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1240	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1241	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1242	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1243	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1244	CHIP RES. 1/10W J 1M Ω	RRXAJR5Z0105
R1245	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1246	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1247	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1248	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1249	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1250	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1251	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1252	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1253	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1254	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1255	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1257	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1258	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1259	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1260	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1261⚠	METAL OXIDE FILM RES. 2W J 2.2 Ω	RN022R2ZU001
R1262	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1263	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R1264	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1267	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R1270	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1273	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1274	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1277	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1280	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1283	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1284	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R1285	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1286	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1287	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1289	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1290	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1291	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1292	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1293	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1294	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1298	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1299	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1405	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1406	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1407	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1408	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1409	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1410	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1411	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1412	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1413	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1415	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R1416	CHIP RES. 1/10W J 330k Ω	RRXAJR5Z0334

Ref. No.	Description	Part No.
R1417	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1418	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1419	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1420	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R1421	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1422	CHIP RES. 1/10W J 270 Ω	RRXAJR5Z0271
R1423	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R1424	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1425	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R1426	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1427	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1428	CHIP RES. 1/10W J 680k Ω	RRXAJR5Z0684
R1429	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R1431	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1432	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1437	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1438	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1602⚠	CEMENT RESISTOR 7W K 1.2 Ω H=25MM	RW071R2PG002
R1603⚠	RES METAL OXIDE FILM 2W J 0.24 Ω	RN02R24ZU001
R1604	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1605	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1606	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1607	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1608	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R1609	PCB JUMPER D0.6-P5.0	JW5.0T
R1610	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R1613	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R1614	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1617	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1618⚠	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1619⚠	METAL OXIDE FILM RES. 1W J 2.2k Ω	RN01222ZU001
R1620⚠	METAL OXIDE FILM RES. 1W J 2.2k Ω	RN01222ZU001
R1621	METAL OXIDE FILM RES. 1W J 5.6k Ω	RN01562ZU001
R1622	PCB JUMPER D0.6-P5.0	JW5.0T
R1623⚠	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1624⚠	CARBON RES. 1/4W J 56k Ω	RCX4JATZ0563
R1625⚠	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1626	CARBON RES. 1/4W J 82 Ω	RCX4JATZ0820
R1627	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1628	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R1629⚠	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1630⚠	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1631⚠	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1632⚠	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R1633⚠	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R1634	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1635	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1636⚠	METAL OXIDE FILM RES. 1W J 2.2k Ω	RN01222ZU001
R1637⚠	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1638⚠	PCB JUMPER D0.6-P5.0	JW5.0T
R1639	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1642⚠	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1644	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1650	METAL OXIDE FILM RES. 1W J 5.6k Ω	RN01562ZU001
R1654	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R1655	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R1662⚠	CARBON RES. 1/4W J 680k Ω	RCX4JATZ0684
R1663	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R1685	METAL OXIDE FILM RES. 1W J 5.6 Ω	RN015R6ZU001
R1686	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1687	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1688	CARBON RES. 1/2W J 12 Ω	RCX2JZQZ0120
R1689	CARBON RES. 1/4W J 4.7 Ω	RCX4JATZ04R7

Ref. No.	Description	Part No.
R1691	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R1692	CARBON RES. 1/2W J 18 Ω	RCX2JZQZ0180
R1693	CARBON RES. 1/2W J 18 Ω	RCX2JZQZ0180
R1694	PCB JUMPER D0.6-P5.0	JW5.0T
R1701	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1751	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1752	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R1753	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1754	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1755	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1756	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1757	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1758	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1759	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1760	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1761	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1762	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1763	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1764	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1765	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1769	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1772	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1773	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1774	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1780	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1781	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1801⚠	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1802⚠	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1803⚠	METAL OXIDE FILM RES. 1W J 12 Ω	RN01120ZU001
R1804	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1805	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1806	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1807	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1808⚠	METAL OXIDE FILM RES. 1W J 12 Ω	RN01120ZU001
R1809	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1810	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1813	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1814	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1815	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1816	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1850	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1851	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1852	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1853	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1854	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1855	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1856	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1857	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1858	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1859	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1860	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1871	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1872	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1873	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1874	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1875	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1876	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1877	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1901	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1902	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1903	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R1904	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1905	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2

Ref. No.	Description	Part No.
R1906	PCB JUMPER D0.6-P5.0	JW5.0T
R1907	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1908	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1909	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R1910	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R1911	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1913	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1914	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1915⚠	METAL OXIDE FILM RES. 1W J 1.1 Ω	RN011R1ZU001
R1916	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1917	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1918	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1919	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1920	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1921	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1922⚠	METAL OXIDE FILM RES. 1W J 1.8 Ω	RN011R8ZU001
R1923	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1924	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1925	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1926	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1927	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
	SWITCHES	
SW1201	TACT SWITCH SKQSAB	SST0101AL038
SW1202	TACT SWITCH SKQSAB	SST0101AL038
SW1203	TACT SWITCH SKQSAB	SST0101AL038
SW1206	TACT SWITCH SKQSAB	SST0101AL038
SW1207	TACT SWITCH SKQSAB	SST0101AL038
SW1208	TACT SWITCH SKQSAB	SST0101AL038
SW1209	TACT SWITCH SKQSAB	SST0101AL038
SW1210	TACT SWITCH SKQSAB	SST0101AL038
SW1211	LEAF SWITCH LSA-1142-2AU	SSC0101KB014
SW1212	ROTARY MODE SWITCH SSS-53MD	SSR0106KB003
	MISCELLANEOUS	
BC1100	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1600	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1606	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
CF1032	CERAMIC SIF FILTER EFCS4R5YS8P	FBB455LMS001
CL1201	FMN CONNECTOR TOP 12P 12FMN-BTRK-A(LF)(SN)	JCFNG12JG020
F1601⚠	FUSE 4.00A/125V	PAGG20CNG402
FH1601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH1602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JC1003	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC1004	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JC1005	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
JC1008	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
JK1701	RCA JACK(YELLOW) (PB FREE) AV-3B-54H	JXRL010SNJ01
JK1702	JACK RCA PCB L 01 AV1-05-023	JXRL010RP042
JK1703	RCA JACK(RED) (PB FREE) AV-3A-57H	JYRL010SNJ01
JK1801	MINIATURE JACK(PB FREE) CKX-035-318AZ4	JYSL010SNJ01
PS1601⚠	THERMISTOR ZPB45BL3R0A	QNBZ45BL3R0A
RL1601⚠	POWER RELAY SDT-S-112LMR	MRNDC12QN014
RS1201	REMOTE RECEIVER PIC-37042LU	USESJRSKK033
SF1002	FILTER CERAMIC BAND PASS SAFHS45M7VAJZ00B05	FBB456LMR004
SG1601⚠	GAP. FNR-G3.10D	FAZ000LD6005
T1601⚠	TRANS POWER 6731	LTT3PC0KT009
T1901⚠	TRANS POWER 6718	LTT2PC0KT008
TB3	HEAD SHIELD T1200UA	1EM321250
TB13	BUSH LED(F) H3700UD	0VM409508
TB17	X5 POW HEAT SINK PIV ASSEMBLY T1000UA	0EM408925A
TB35	X7 DTV HEAT SINK PLR T3220UA	1EM422790
TL6	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080

Ref. No.	Description	Part No.
TP1202	PCB JUMPER D0.6-P18.0	JW18.0T
TP1401	PCB JUMPER D0.6-P24.0	JW24.0T
TP1402	PCB JUMPER D0.6-P22.0	JW22.0T
TP1403	PCB JUMPER D0.6-P22.0	JW22.0T
TP1703	PCB JUMPER D0.6-P7.5	JW7.5T
TU1010	TUNER UNIT TDQU2	UTUNNTUAL048
W1601⚠	AC CORD (PB FREE) A0A0280-012	WAC0172LTE12
VR1601⚠	CARBON P.O.T. VZ067TL1 B103 PB(F)	VRCB103HH014
X1201	XTAL DT38 32.768kHz	FX0323LDS001
X1202	XTAL HC-49/U 10.6MHz	FXD106LLN001
X1401	XTAL 3.579545MHz(20PPM)	FXC355LLN004

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists of the following:	1ESA12193
	TRANSISTORS	
Q1201	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q1202	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F

MPS CBA

Ref. No.	Description	Part No.
	MPS CBA Consists of the following:	1ESA14137
	SUB CBA (MPS-A) CRT CBA (MPS-B) FUNCTION CBA (MPS-C) JUNCTION-A CBA JUNCTION-B CBA	---------- ---------- ---------- ---------- ----------

SUB CBA

Ref. No.	Description	Part No.
	SUB CBA (MPS-A) Consists of the following:	----------
	CAPACITORS	
C2305	ELECTROLYTIC CAP. 470μF/10V M	CE1AMASDL471
C2307	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2308	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2309	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2310	STACKED FILM CAP. 0.47μF/50V J	CMA1JJS00474
C2311	ELECTROLYTIC CAP. 220μF/10V M	CE1AMASDL221
C2312	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2315	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C2316	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2317	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2318	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2320	ELECTROLYTIC CAP. 100μF/10V M	CE1AMASDL101
C2322	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C2323	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C2324	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2326	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C2327	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2328	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2330	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2331	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2332	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2333	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C2334	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C2530	ELECTROLYTIC CAP. 100μF/35V M	CE1GMASDL101
C2531	METALIZED FILM CAP. 0.27μF/200V J	CT2D274F7003
C2532	METALIZED FILM CAP. 0.33μF/200V J	CT2D334F7003
C2533⚠	P.P.CAP 0.012μF/1.6KV J	CA3C123VC011
C2534⚠	P.P.CAP 0.027μF/630V J	CBP2KKD00273
C2535⚠	ALMINIUM ELECTRIC CAPACITOR UHA1H4R7KHD	CA1J4R7NC235
C2536	FILM CAP.(P) 0.1μF/50V J	CMA1JJS00104
C2537	FILM CAP.(P) 0.1μF/50V J	CMA1JJS00104
C2538	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C2539	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASDL471
C2540⚠	CAP P.P. 0.0015μF/1.6KV J	CA3C152VC011
C2543	FILM CAP.(P) 0.022μF/50V J	CMA1JJS00223
C2552	FILM CAP.(P) 0.22μF/100V J	CMA2AJS00224
C2553	ELECTROLYTIC CAP. 1μF/50V LL	CE1JMASLH1R0
C2555	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C2556	ELECTROLYTIC CAP. 1000μF/25V M	CE1EMZPDL102
C2558	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C2559	ALUMINUM ELECTROLYTIC CAP 1000μF/35V M	CE1GMZNTM102
C2560	FILM CAP.(P) 0.033μF/50V J	CMA1JJS00333
C2561	ELECTROLYTIC CAP. 4.7μF/50V M	CE1JMASDL4R7
C2574⚠	ELECTROLYTIC CAP. 4.7μF/250V M	CE2EMASDL4R7
C2577	FILM CAP.(P) 0.018μF/50V J	CMA1JJS00183
C2578	ELECTROLYTIC CAP. 47μF/35V M	CE1GMASDL470
C2583	ELECTROLYTIC CAP. 2.2μF/100V M	CE2AMASDL2R2
C2584⚠	ELECTROLYTIC CAP. 2.2μF/100V M	CE2AMASDL2R2
C2588	ELECTROLYTIC CAP. 47μF/50V M	CE1JMASDL470
C2590	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C2591	ELECTROLYTIC CAP. 2.2μF/50V M	CE1JMASDL2R2
C2592	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C2594	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZNDL101
C2596	ELECTROLYTIC CAP. 22μF/50V M	CE1JMASDL220
C2601	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C2603	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C2605	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2606	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2609	ELECTROLYTIC CAP. 47μF/50V M	CE1JMASDL470
C2616	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C2629	ELECTROLYTIC CAP. 220μF/6.3V M	CE0KMASDL221
C2630	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C2670	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASDL471
C3595⚠	CAP P.P. 0.0033μF/1.6KV J	CA3C332VC011
	CONNECTORS	
CN2103	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2301	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2302	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2571⚠	CONNECTOR PRINT OSU 5P RTB-1.5-5P (LF)	J3RTC05JG002
	DIODES	
D2300	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2301	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2302	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2304	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2305	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2307	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2308	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2530⚠	DIODE ERD07-15L	QD4ZERD0715L
D2531⚠	FAST RECOVERY DIODE ERD38-06	QDQZ0ERD3806
D2532	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2536	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2537	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2538	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2552⚠	DIODE FR104-B	NDLZ000FR104
D2555	ZENER DIODE MTZJ-51	QDTZ00MTZJ51
D2572⚠	DIODE FR104-B	NDLZ000FR104
D2575⚠	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D2583	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D2584	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2585	ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D2586	PCB JUMPER D0.6-P5.0	JW5.0T
D2591⚠	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D2592	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D2595⚠	ZENER DIODE MTZJT-7724B	QDTB00MTZJ24
D2596⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2597	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2598⚠	DIODE FR104-B	NDLZ000FR104
D2599	ZENER DIODE MTZJT-7716B	QDTB00MTZJ16
D2603⚠	ZENER DIODE MTZJT-775.6C	QDTC0MTZJ5R6
D2627	ZENER DIODE MTZJT-773.9B	QDTB0MTZJ3R9
D2651	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2652	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2661	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2662	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
ICS		
IC2301⚠	VCD IC M61276FP TF0H	QSZAB0RMB134
IC2551⚠	IC VERTICAL OUTPUT LA78041-E	QSZBA0SSY006
IC2602⚠	VOLTAGE REGULATOR TLV1117IDCYRG3	NSZBA0TTY219
IC3603	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC3604	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
COILS		
L2505	CHOKE COIL 47μH	LLBD00PKV022
L2530⚠	LINEARITY COIL ELH5L6136N	LLBD00PMS008
L2531	CHOKE COIL ELC18B471LM	LLC471KMS001
L2613	INDUCTOR 10μH-K-5FT	LLARKBSTU100
TRANSISTORS		
Q2301	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2302	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2303	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2304⚠	NPN TRANSISTOR 2SC1627-Y (TE2.F.T)	QQSY2SC1627F
Q2305⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2530⚠	TRANSISTOR 2SD1666R	QQER02SD1666
Q2531	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q2532	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2533	TRANSISTOR 2SC2785(J)	QQSJ02SC2785
Q2571⚠	TRANSISTOR TT2190LS	QQZZTT2190LS
Q2591⚠	TRANSISTOR 2SC3708S	QQSS02SC3708
Q2592⚠	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2601	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2608	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2609	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2610⚠	TRANSISTOR 2SA1175(F)	QQSF02SA1175
Q2611⚠	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q2612	TRANSISTOR 2SC2785(F)	QQSF02SC2785
Q2615⚠	TRANSISTOR 2SD400(F)	QQUF002SD400
Q2616	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q2617⚠	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q2618⚠	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
RESISTORS		
R2301	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2303	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2305	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2306	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R2307	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2309	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2310	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2311	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2312	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2313	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2314	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102

Ref. No.	Description	Part No.
R2319	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R2321	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2322	CARBON RES. 1/4W J 15 Ω	RCX4JATZ0150
R2323	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2324	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R2325	CHIP RES. 1/10W J 3.3M Ω	RRXAJR5Z0335
R2326	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2327	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2328	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2331	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R2332	CHIP RES. 1/10W J 120k Ω	RRXAJR5Z0124
R2333	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R2501	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R2526	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2527	CHIP RES. 1/10W J 10M Ω	RRXAJR5Z0106
R2529	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R2530⚠	METAL OXIDE FILM RES. 1W J 1k Ω	RN01102ZU001
R2531⚠	METAL OXIDE FILM RES. 2W J 8.2 Ω	RN028R2ZU001
R2532	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R2533	CARBON RES. 1/4W J 2.2k Ω	RCX4JATZ0222
R2534	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2535	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R2536	CHIP RES. 1/10W J 120k Ω	RRXAJR5Z0124
R2537	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R2538	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R2539⚠	CHIP RES. 1/10W J 150k Ω	RRXAJR5Z0154
R2540	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2541	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2542	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2543	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2544⚠	CEMENT RESISTOR 7W K 4.7 Ω H=25MM	RW074R7PG002
R2545	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R2546	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R2547	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R2549	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R2550	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2551	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R2552	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2553	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R2554	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2555	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R2556	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R2557	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2558	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R2559	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R2560	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R2561	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R2562	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R2563	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R2564	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R2565	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R2566	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R2570	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R2571	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2572	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R2573	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R2575	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2576	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R2577	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R2578⚠	METAL OXIDE FILM RES. 1W J 12 Ω	RN01120ZU001
R2579	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2580⚠	PCB JUMPER D0.6-P5.0	JW5.0T
R2581	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471

Ref. No.	Description	Part No.
R2582	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2583⚠	METAL OXIDE FILM RES. 2W J 1.8 Ω	RN021R8ZU001
R2584	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2585	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R2586	PCB JUMPER D0.6-P5.0	JW5.0T
R2587	CARBON RES. 1/4W J 82k Ω	RCX4JATZ0823
R2588	CARBON RES. 1/4W J 68k Ω	RCX4JATZ0683
R2589⚠	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270
R2590	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R2591	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2592⚠	CARBON RES. 1/4W G 150k Ω	RCX4GATZ0154
R2593⚠	CARBON RES. 1/4W G 220k Ω	RCX4GATZ0224
R2594	CARBON RES. 1/4W G 68k Ω	RCX4GATZ0683
R2595	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R2597	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R2599	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2601	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2602	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R2603	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2604	CHIP RES. 1/10W J 2k Ω	RRXAJR5Z0202
R2608	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2609	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2610	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R2611	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2613	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R2618	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R2649⚠	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R2650	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R2651	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2653	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R2655	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R2656	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R2657	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R2658	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2659	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R2660	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R2671	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5Z5601
R2672	CHIP RES. 1/10W F 15k Ω	RRXAFR5Z1502
R2675	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R2676	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R2677	RES METAL OXIDE FILM 1/2W J 0.39 Ω	RNX2JZPZ0R39
R2678	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R2680	RES CHIP 2125 1/8W J 0.15 Ω	RRX8R15HH005
R2686	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2687	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5Z5601
R2688	CHIP RES. 1/10W F 15k Ω	RRXAFR5Z1502
R2691	PCB JUMPER D0.6-P5.0	JW5.0T
R2692	CHIP RES. 1/10W J 130 Ω	RRXAJR5Z0131
R2693	CHIP RES. 1/10W J 130 Ω	RRXAJR5Z0131
R3506	PCB JUMPER D0.6-P5.0	JW5.0T
R3521⚠	METAL OXIDE FILM RES. 1W J 12 Ω	RN01120ZU001
R3568⚠	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R3576	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R3580	PCB JUMPER D0.6-P5.0	JW5.0T
MISCELLANEOUS		
BC2501	BEAD INDUCTOR FBA04HA600VB-00	LLBF00STU026
CL2504	LEAD WIRE 5P 370MM	WX1T3221-001
DB5	X7 DTV HEAT SINK PLS ASSEMBLY T3220UA	1EM422791A
DL2	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
JK2601	JACK RCA PCB L MSP-241V-05 NI LFW/O	JXRL010LY148
T2571⚠	TRANS FBT JF0501-3301-G	LTF00CPXB051
T2572⚠	HORIZONTAL DRIVE TRANS(PB FREE PY2005	LTH00CPY2005

Ref. No.	Description	Part No.
TP1301	PCB JUMPER D0.6-P10.0	JW10.0T
TP1302	PCB JUMPER D0.6-P7.5	JW7.5T
TP1303	PCB JUMPER D0.6-P7.5	JW7.5T
TP2501	PCB JUMPER D0.6-P10.0	JW10.0T
TP2502	PCB JUMPER D0.6-P14.5	JW14.5T
TP2503	PCB JUMPER D0.6-P14.0	JW14.0T
TP2504	PCB JUMPER D0.6-P18.0	JW18.0T
TP2505	PCB JUMPER D0.6-P14.0	JW14.0T
TP2506	PCB JUMPER D0.6-P11.0	JW11.0T
VR2530	CARBON P.O.T. VZ067TL1 B303 PB(F)	VRCB303HH014
VR2531	CARBON P.O.T. VZ067TL1 B103 PB(F)	VRCB103HH014
X2301	XTAL 3.579545 MHz	FXD355LLN003

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA (MPS-B) Consists of the following:	---------
CAPACITORS		
C2504	CERAMIC CAP.(AX) B J 470pF/50V	CCA1JJT0B471
C2505	CERAMIC CAP.(AX) B J 470pF/50V	CCA1JJT0B471
C2506	CERAMIC CAP.(AX) B J 560pF/50V	CCA1JJT0B561
C2508	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C2509⚠	CERAMIC CAP. B K 2200pF/2KV	CCD3DKP0B222
CONNECTOR		
CN2501	CONNECTOR PIN 1P RT-01N-2.3A	1730688
DIODES		
D2501	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2502	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2503	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
COIL		
L2501	PCB JUMPER D0.6-P5.0	JW5.0T
TRANSISTORS		
Q2501⚠	TRANSISTOR 2SC5360 FA Q	QQWZC5360FAQ
Q2502⚠	TRANSISTOR 2SC5360 FA Q	QQWZC5360FAQ
Q2503⚠	TRANSISTOR 2SC5360 FA Q	QQWZC5360FAQ
RESISTORS		
R2507	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2508	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2509	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2510	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R2511	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R2512	CARBON RES. 1/4W J 8.2k Ω	RCX4JATZ0822
R2513	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2514	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2515	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2516⚠	FIXED METAL OXIDE FILM RE S. 3W J 10k Ω	RN03103DP005
R2517⚠	FIXED METAL OXIDE FILM RE S. 3W J 10k Ω	RN03103DP005
R2518⚠	FIXED METAL OXIDE FILM RE S. 3W J 10k Ω	RN03103DP005
R2519	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2520	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2521	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2522	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2523	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2524	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
MISCELLANEOUS		
BC2502	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
CL2501	WIRE ASSEMBLY 3P 470MM	WX1TD600-003
JK2501⚠	CRT SOCKET ISHD40S	JSCC290PK008

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA (MPS-C) Consists of the following:	----------
	CONNECTORS	
CN2401	BOARD CONNECTOR 07P(PB FREE) 127301107K2	JCTWA07TG004
CN2801	242 SERIES CONNECTOR 224202104W1	J322C04TG001
	RESISTORS	
R2401	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5Z1501
R2402	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5Z1501
R2403	CHIP RES.(1608) 1/10W F 2.2k Ω	RRXAFR5Z2201
R2404	CHIP RES.(1608) 1/10W F 2.7k Ω	RRXAFR5Z2701
R2405	CHIP RES.(1608) 1/10W F 4.7k Ω	RRXAFR5Z4701
R2406	CHIP RES. 1/10W F 6.8k Ω	RRXAFR5Z6801
R2407	CHIP RES. 1/10W F 15k Ω	RRXAFR5Z1502
	SWITCHES	
SW2401	TACT SWITCH SKQSAB	SST0101AL038
SW2402	TACT SWITCH SKQSAB	SST0101AL038
SW2403	TACT SWITCH SKQSAB	SST0101AL038
SW2404	TACT SWITCH SKQSAB	SST0101AL038
SW2405	TACT SWITCH SKQSAB	SST0101AL038
SW2406	TACT SWITCH SKQSAB	SST0101AL038
SW2407	TACT SWITCH SKQSAB	SST0101AL038
SW2408	TACT SWITCH SKQSAB	SST0101AL038

JUNCTION-A CBA

Ref. No.	Description	Part No.
	JUNCTION-A CBA Consists of the following:	----------
	CONNECTOR	
CN3802	242 SERIES CONNECTOR TUC-P04X-B1 WHT ST	JCTUB04TG002
	MISCELLANEOUS	
CL3802	WIRE ASSEMBLY 2P 180MM	WX1T9200-005

JUNCTION-B CBA

Ref. No.	Description	Part No.
	JUNCTION-B CBA Consists of the following:	----------
	CONNECTOR	
CN3801	242 SERIES CONNECTOR TUC-P04X-B1 WHT ST	JCTUB04TG002
	MISCELLANEOUS	
CL3801	WIRE ASSEMBLY 2P 180MM	WX1T9200-005

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